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# Open Space Conservation Plan

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Contra Costa County, California







# **Open Space Conservation Plan**

**1973**

**Contra Costa County, California**

Adopted July 24, 1973

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Prepared by

CONTRA COSTA COUNTY PLANNING DEPARTMENT

OPEN SPACE-CONSERVATION PLAN )

Combined Open Space Element and Conservation Element  
being a part of the  
Contra Costa County General Plan

County pl.      Contra Costa  
Conservation      " "  
Land Util.

prepared by the  
Contra Costa County Planning Department,  
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## TABLE OF CONTENTS

	<u>PAGE</u>
PREFACE	i
INTRODUCTION	1
GOALS AND OBJECTIVES OF THE OPEN SPACE-CONSERVATION PLAN	10
EXISTING MAJOR OPEN SPACE AREAS	12
DESCRIPTION OF THE COUNTY BY PHYSIOGRAPHIC REGIONS	16
MAJOR OPEN SPACE-CONSERVATION ISSUES	20
THE OPEN SPACE-CONSERVATION PLAN	24
FINDINGS AND POLICIES	34
Agriculture	34
Development	37
Urban Open Space	38
Bay-Delta Recreation	41
Geology and Soils for Development	43
Mineral Resources	46
Hydrology and Water Quality	48
Air Quality	53
Vegetation and Wildlife	56
Aesthetic Qualities and Historic Features	63
THE ACTION PROGRAM	66
MAPS	
Existing Major Open Space Inventory	14
Physiographic Regions	17
Open Space-Conservation Plan	77





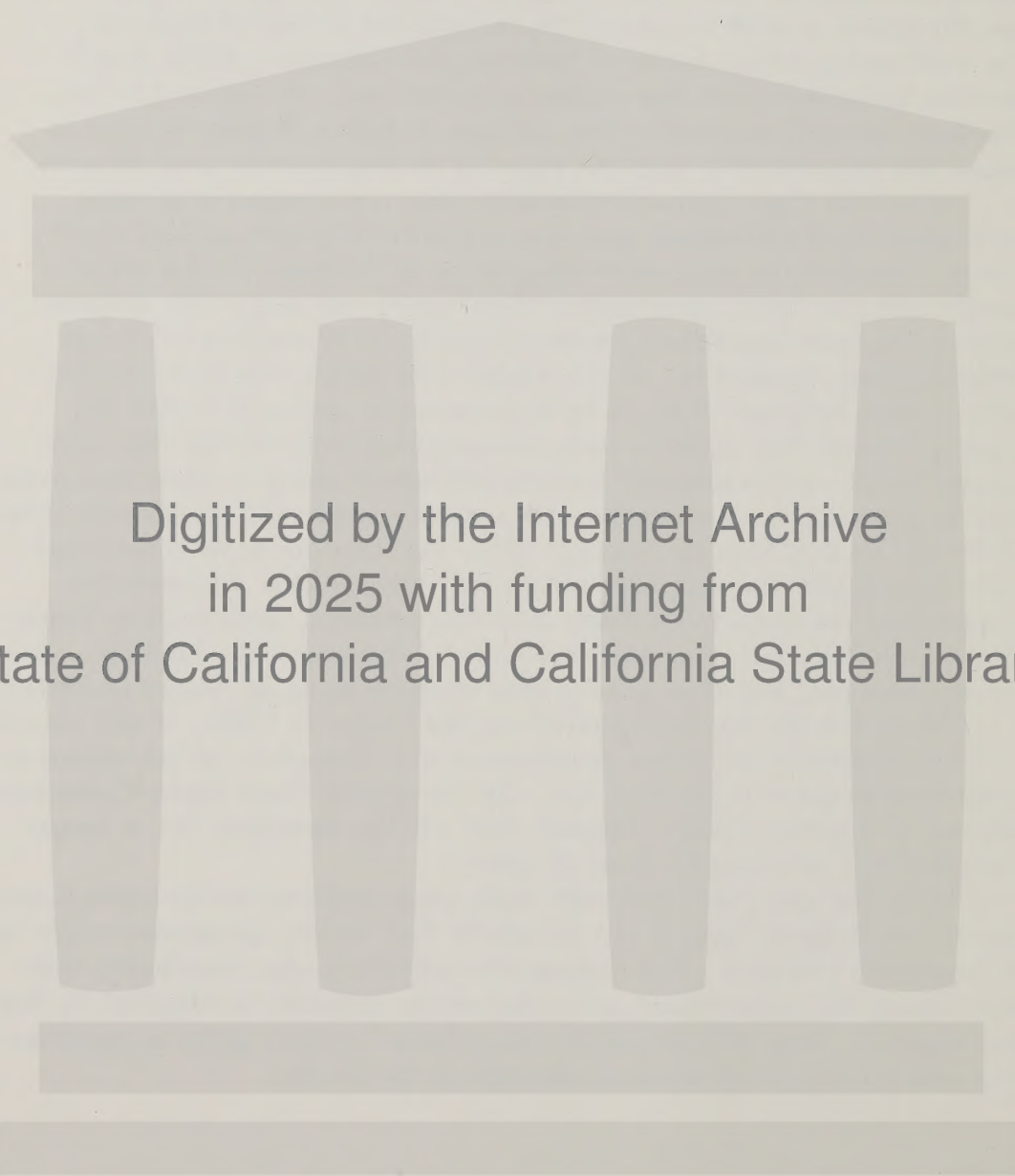
## PREFACE

The California legislature has made the preparation of open space and conservation elements of the general plan mandatory for counties and cities. In making this requirement, the legislature recognizes the growing environmental awareness of the citizenry and the need for local government to take specific action in order to prevent the wasteful use of natural resources. The overlapping subject matter of these required elements enables them to combine successfully into one element as found here. As required by law, the Open Space-Conservation Plan includes an Action Program in order to insure that important first steps are taken in the implementation of the plan.

This initial Open Space-Conservation Plan is concerned with major open space areas and natural resources of county-wide and regional significance. The normally appropriate designation of "interim" for the initial version of a plan being developed in stages cannot be used in this instance because the State Legislature previously applied it to a different kind of temporary open space plan. It is intended to be used as the County's plan while a more detailed version is being prepared in connection with the County General Plan updating being accomplished under LUTS. The subsequent version of the plan will include refinements based on local area plans, and the open space, conservation, and recreation plans of incorporated cities which will be available by January, 1974, and the most recent information from regional planning agencies such as the Metropolitan Transportation Commission, the Association of Bay Area Governments, and the Open Space-Conservation Plan will also provide a basis for transportation, land use, community facilities, and other general plan elements being developed under LUTS.

This plan is for the time frame of roughly 7 years to 1980. It will provide a timing mechanism for future development as it focuses on action needed to preserve open space in the short run. The succeeding Open Space-Conservation element of the new County General Plan will be developed for a longer time horizon, for example 20 or 25 years.

While the plan itself deals with open space problems for the entire County, the Action Program focus is on the efforts that County government might take to implement this plan. The incorporated cities are also developing their open space and conservation plans and action programs as required by law, and together, they will provide a strong force for open space preservation and wise utilization of resources throughout the County.



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## INTRODUCTION

### PURPOSES

The Open Space-Conservation Element of the County General Plan provides the basic policy framework for implementing the County's open space and conservation programs. This combined element specifies the official county policies regarding:

The open space and conservation goals and objectives of the County.

Lands to be held in open space and to be utilized for open space uses.

The plan to which public and private projects will be referred to determine their conformance with open space and conservation goals and objectives.

The action program which will be pursued in order to implement the plan.

The basis for coordinating County and other planning agency implementation of the plan.

Guidance to landowners in making decisions for the shorter future.

The functions of the Open Space-Conservation Element in the County General Plan are 1) to provide for the retention of an optimum amount of open space for useful purposes, and 2) to provide a framework of open space and urban development areas within which land use, transportation, and community facilities planning can take place in an efficient and coordinated manner.

The first function is as important as the second to Contra Costa County. Open Space and Conservation in this plan can mean land for orchards, crops, livestock production, water supply, national defense, public and private recreation, forestry, mineral extraction, agricultural industry, and even very low density residential uses, where appropriate to location and other planning considerations.

The plan was developed with reference to local area plans for the unincorporated County and the Association of Bay Area Governments' Regional Plan 1970:1990. Similarities between this plan and local area plans are very strong. However, since the local area plans are developed for a long-range future and this plan refers to the intermediate target year of 1980, there are understandable differences in the land resources slated for urban growth. When adopted, this Open Space-Conservation Plan will be the effective document until the adoption of a more detailed version that is scheduled for consideration in late 1974 in connection with other LUTS plans.

The Open Space-Conservation Plan and the Association of Bay Area Governments' Regional Plan 1970:1990 are in agreement in their planning aims and in the general location and distribution of land allocated to urban development and open space. Where minor differences occur, they reflect local needs and growth patterns and remain in essential agreement with the Regional Plan. In areas in which differences occur, the County's Open Space-Conservation Plan is the effective document.

## PARTS OF THE PLAN

The Open Space-Conservation Plan consists of this text and the plan map that is included herein. Background and context for the plan is provided by various published and unpublished materials and plans, including those listed later in this chapter. The Plan text embraces this chapter and the following chapters:

- Goals and Objectives of the Open Space-Conservation Plan

- Existing Major Open Space Areas

- Description of the County by Physiographic Regions

- Major Open Space and Conservation Issues

- The Open Space-Conservation Plan

- Findings and Policies

The Plan also includes the Action Program concluding this report.

It should be clearly understood that the plan itself is a necessary but, in itself, an insufficient step towards achieving open space and conservation objectives. The plan's effectiveness depends on beginning now to accomplish the implementation developed in its Action Program.

This document is intended to satisfy Sections 65302 and 65563 of the Government Code which make the preparation and adoption of open space and conservation elements of general plans mandatory for local governments.

## BACKGROUND AND LEGAL FRAMEWORK OF THE PLAN

There is now in America a movement away from the 19th century idea that a property's highest and best use is solely the use which produces the highest short-term profits. There is a renewed national trend toward the conservation point of view in which land is not only considered a commodity having



point of view in which land is not only considered a commodity having immediate dollar productivity, but at the same time is seen as a resource with intrinsic "highest and best uses" which are related to its natural long-term productivity. This philosophical shift, coupled with the growing awareness of the limits of the natural resource base, has led to profound changes in the responsibilities of local government.

In the California Environmental Quality Act of 1970 this change in direction is clearly stated in that laws overriding policy that "the long-term preservation of the environment shall be the leading criterion in public decisions".

The allocation of land and water areas for various uses resides with local government, and land allocation is critical to the conservation of resources. In order to insure that long-term preservation of resources is included in planning future land use in the State, the Legislature, in Section 65302 of the Government Code, has made mandatory several general plan elements which are directly related to environmental resource management. These are:

- Conservation (of natural resources)
- Open Space
- Seismic Safety
- Safety (from fire and geologic hazards)
- Scenic Highways
- Noise (related to transportation facilities)

The Land Use Element and optional Recreation Element do not have open space and conservation, as such, as their primary subject matter, but they too have a relationship to open space uses which make them closely related to open space and conservation.

In order to insure that local governments take their open space plans very seriously, California statutes require that local open space plans "... shall contain an action program consisting of specific programs which the legislative body intends to pursue in implementing its open space plans" (Section 65910 of the Government Code). Zoning consistent with the local open space plan is also required.

It is clearly the intent of the State that local planning agencies plan for the long-term uses of natural resources, and implement the plans. This

requires that growth be planned and controlled by local government in order to prevent the destruction of vital natural resources--a concept of stewardship rather than of short-term exploitation of the land.

Planning traditionally has had the function of accommodating growth in an orderly way and with a high degree of coordination of the many aspects of development. To this is now added the requirement that growth be not only orderly but do the least possible damage to the environment. In a fast-growing and physically complex area such as Contra Costa County this is not an easy task.

The natural world is infinitely variable: conditions change markedly from place to place and from time to time; in the case of a resource such as air, even from hour to hour. An action in one area may have far-reaching and unexpected results elsewhere. In the case of some important environmental factor such as the location and extent of active earthquake faults, complete information is not available. In the future, in another decade or so, a great deal more information will be available as a result of environmental studies being initiated. No doubt new problems will be brought to public attention as well as possible solutions to problems recognized today.

In the meanwhile, it is the responsibility of planning to proceed wisely with decisions based upon the best available information on the environment and to act on the problems and opportunities inherent in resource management.

In this plan the open space and conservation elements are combined since a major means of preserving the productivity of resources is to insure that they remain in open space uses and since the conservation of a resource is a major means of retaining an area in open space. Thus, for example, the San Joaquin Delta soils may be conserved for agricultural productivity by designating the area as open space for agriculture, and open space values are retained for all citizens by the protection of areas needed for agriculture. Open space and conservation goals work together for the retention of a healthy, attractive, and productive environment.

In October of 1972, the California Supreme Court (in Friends of Mammoth vs. Mono County) held that private development projects, as well as public programs and projects, require Environmental Impact Reports (EIRs) before they can be approved by local planning agencies.

The contents of an EIR, following state guidelines, are also written with reference to the adopted open space-conservation plans, and zoning, and will become a prime means of effectuating the Open Space-Conservation Plan.



## OPEN SPACE ZONING

Section 65910 of the California Government Code requires cities and counties to adopt open space zoning in order to implement their general plan open space elements. This Plan, in its Action Program text, designates several kinds of existing County zoning ordinance districts as open space zoning districts. These existing districts (see Action Program) include agricultural, forestry, and recreational zoning districts, as well as certain very low density residential zoning and planned unit development arrangements under certain circumstances. The Action Program recommends the strengthening of some provisions of these existing zoning districts, and further recommends the consideration of additional specialized open space zoning districts.

## CONTENTS OF OPEN SPACE AND CONSERVATION ELEMENTS

### Conservation Element Legislation.

As established in Section 65302 of the California Government Code, the Conservation Element takes into consideration the conservation, development, and utilization of natural resources including forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. This element may also consider land and water reclamation, flood control, prevention and control of water pollution, land use regulation in stream channels and other areas for the accomplishment of the conservation plan, prevention and control of soil and shore erosion, watershed protection, and the location of rock, sand, and gravel resources.

### Open Space Element Legislation.

As defined in Section 65560 of the Government Code, open space is "...any parcel or area of land or water which is essentially unimproved and devoted to an open space use" for any of the following:

Preservation of natural resources including plant and animal life, fish and wildlife habitat, scientific study, watersheds, surface waters and shorelines;

Managed production of resources including forests, rangeland, areas of economic importance for the production of food and fiber, recharge areas for ground water basins, surface waters important for the management of commercial fisheries, and areas containing major mineral deposits;

Outdoor recreation, areas of outstanding scenic, historic, and cultural value, and areas which serve as links between recreation and open space

reservations, including utility easements, stream banks, and scenic highway corridors;

Public health and safety, including areas which require special management or regulation because of hazardous conditions such as earthquake fault zones, unstable soils, flood plains, watersheds, high fire risks, and protection of air and water quality.

The California Planning Law specifically covers the major natural resource subjects of the State but also allows local governments to consider other items which are important for local open space and conservation planning. Thus, this plan includes a discussion of open space uses within urban areas, the environmental implications of the growth of water-related recreation, and the greenbelting and buffering uses of open spaces to preserve visual quality and prevent the mingling of incompatible uses.

There are several assumptions underlying the concepts embodied in open space and conservation planning law: first, that economic development and population will increase significantly during the 1970s and thereafter; second, that the preservation of agriculture, fisheries, and wildlife cannot be left to chance; and third, that local governments have the ability to make decisions for resource utilization which are in the long-range public interest.

## REPORTS RELATED TO THE OPEN SPACE-CONSERVATION PLAN

This document is part of a series of related studies and plans developed by the Contra Costa County Land Use and Transportation Study. It is also related to other plans developed by the County Planning Department and to planning studies prepared by other city and regional planning agencies. The antecedent reports include:

The Recreation Element of the County General Plan, entitled Parks and Recreation, Contra Costa County which was adopted by the Board of Supervisors on December 8, 1970. This report specified the first steps in delineating a major and local park system in the County as well as providing an inventory of existing park facilities as of that date.

The Inventory for the Conservation Element, a report issued by the Land Use and Transportation Study in August 1971, which provides an overview of environmental factors within the County and identifies issues related to resource conservation.

The Interim Bicycle Paths Plan, adopted by the County in June 1972, specifying primary and secondary routes for recreation biking and as



an alternate transportation system connecting neighborhoods, schools, parks, and other public facilities.

The Interim Riding Trails Plan and the Interim Hiking Trails Plan, adopted by the County in October 1972. These trails connect major parks and other points of interest. Because of public interest, the Northgate Road area of the riding trails plan has been designated a special study area.

Regional level reports which will influence the final plan include:

The Association of Bay Area Governments' Regional Plan.

The Metropolitan Transportation Commission's comprehensive regional transportation plan (including the plans of its predecessors), in preparation.

The East Bay Regional Park District's recommended master plan, in preparation.

The Bay Conservation and Development Commission's San Francisco Bay Plan.

Local area plans and the open space and conservation plans of the incorporated cities, which will be available after January 1974, will be coordinated with this plan during the refinement period prior to the adoption of the succeeding version of this plan.

It is further understood that major open space areas in the incorporated areas of subsequently adopted city general plans are to be regarded as complementary to this plan and are to be considered for inclusion in this plan through subsequent amendments.

## OPEN SPACE AND CONSERVATION PLANNING ACTIVITIES AT SEVERAL GOVERNMENT LEVELS

There are several local and regional planning agencies operational in the County, often with overlapping functions and jurisdictions. These agencies provide a number of different approaches and implementation means to achieve open space and conservation objectives and, with their combined actions, present an impressive force for open space preservation and utilization.

### City and County Planning Agencies

Through the powers of zoning, subdivision review, and park dedication, local government planning agencies are involved in active programs of open space acquisition and land dedication. The County is also actively pursuing its Agricultural Preserve Program under the Williamson Act.

Local government plans and programs are the basis and reference point for virtually all open space planning within the County. Regional agencies make plans and embark on acquisition programs with reference to adopted city and county plans. The County's Open Space-Conservation Plan is coordinated with city plans and with local area plans for the unincorporated area.

#### San Francisco Bay Conservation and Development Commission

The commission has jurisdiction over open water, tidelands, and to 100 feet inland from Mean Higher High Water (MHHW). In Contra Costa County the BCDC jurisdiction extends from the southern county boundary at Point Isabel north and east to Stake Point between Martinez and Pittsburg. The charge of the BCDC is to insure that the uses of the land and water within this area provide public access to the shoreline and to control bay fill in the public interest.

The massive bay fill projects planned by bayshore communities have been halted and continuous efforts are being made to secure public access to the Bay.

#### Association of Bay Area Governments

In June of 1970 ABAG's Regional Plan was approved. It conforms in most respects with the existing County General Plan which was adopted in 1963 and subsequently amended. The mutuality of these plans provides a framework for the review of Environmental Impact Reports at the regional and county levels. Since ABAG acts as a clearing house for approval of federal and state funding of local planning projects, continuing agreement between the ABAG and county open space plans will aid in assuring funding for projects and programs to implement the Open Space-Conservation Plan. The countywide Open Space Conservation Plan, indicating the adopted policies of the County, is an important reference for the continuing revision and refinement of ABAG's regional planning efforts.

#### Metropolitan Transportation Commission

In 1971 the MTC became the planning coordination agency for major transportation improvements in the Bay Area. The commission is charged with developing a comprehensive transportation plan for the region. Their initial plan is scheduled for completion by June 30, 1973. It is hoped that the transportation plan will reflect open space needs by providing for open space facilities along rights-of-way and by locating major highways so that the open space and conservation objectives of the County will be supported.

will be supported.

#### East Bay Regional Park District

This agency, which serves in part as a park agency for the County, provides major park planning, acquisition, and operations for western and central Alameda and Contra Costa Counties. The park district is presently developing a master plan for future acquisitions. Recently increased revenues will aid in implementing this Open Space-Conservation Plan by permitting acquisition of additional areas for recreation uses.

The park district currently does not have responsibilities for providing local parks and recreation services.

#### Utility Companies

Although not recreational agencies, major land holdings by the East Bay Municipal Utility District for reservoirs and watershed management, and the Contra Costa County Water District and Pacific Gas and Electric Company, both with easements and rights-of-way throughout the County, are important holders of open space. These lands are increasingly becoming available for public outdoor recreation and trails. No major additional properties are anticipated to be acquired by utility companies in the near future, but they are to be commended in their efforts to cooperate with public agencies in achieving the open space objectives for outdoor recreation and trail systems.

#### State of California, Department of Parks and Recreation

There are two state parks in the County--Mt. Diablo State Park in the central County and Frank's Tract State Park, a flooded Delta island. The State is concentrating its land acquisition in enlarging Mt. Diablo State Park, a program which is instrumental in realizing several objectives of the Open Space-Conservation Plan, including recreation, watershed management, preservation of vegetation and wildlife, and visual quality.

#### Local Park and Recreation Districts and Service Areas

Several local special districts and areas exist within the County. Additionally, Concord, Walnut Creek, and Richmond, and other cities, have recreation and park departments. These provide open space and recreation opportunities at a local scale within urban areas.



## GOALS AND OBJECTIVES OF THE OPEN SPACE-CONSERVATION PLAN

It is the goal of Contra Costa County to obtain a system of permanent open space of sufficient size and locational qualities to provide a reserve for the protection of water and other natural resources, to preserve appropriate areas for agricultural production, to guide and enhance urban development, to prevent building in undesirable locations, to preserve natural habitats, and to preserve prominent natural landscape features.

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### City-County Goals, Contra Costa Land Use and Transportation Study

This goal was formulated during the early years of LUTS from an analysis of existing goals of the County, the cities within the County, and regional planning agencies. It encompasses the best social values of open space planning as envisioned by residents in this time and place. Recent thinking however has led to recommending an enlargement of the scope of the goal to include the conservation concept of productive uses of short and intermediate-term open space land areas which may undergo development at a future time but which should remain in an open space use for the present. The Agricultural Preserve is an example of lands aided by tax relief to remain in commercial agricultural production for the contract period, but for which ultimate urban uses are not necessarily precluded in a longer time dimension. The concept of non-permanent open space is useful in the prevention of premature development and urban sprawl. Holding areas open but with the possibility of future development enables a community to make firm conservation and development plans for the short-range future and encourage the infilling of vacant parcels within the urban complex.

The plan objectives reflect specific needs to achieve the county goal, and demonstrate the direction in which the County must move in order to fulfill the goal for the benefit of all citizens, present and future. Although the policies of this plan are directed to the shorter range future, their long-range purpose is to become a part of the continuing process of defining appropriate uses for the natural resource base of the County in order to approximate, through time, the ideals expressed in the goal.

The objectives of the plan are to:

1. Achieve a balance of uses of the County's natural resources to meet the social and economic needs of the County's residents.
2. Provide a permanent open space base for the County for a variety of open space uses.

3. Plan for resource utilization and development within the framework of a healthy and attractive environment.
4. Reserve for agriculture those areas which are highly suited to agricultural production.
5. Assist in protecting open space and profitability for the enhancement of the rural economy.
6. Control the direction and extent of urban growth.
7. Provide form for existing communities.
8. Protect the public from undue risks to life and property.
9. Minimize noxious air emissions and water discharges.
10. Preserve and enhance historic and scenic features, watersheds, natural waterways, and areas important for the maintenance of natural vegetation and wildlife populations.
11. Provide a well-balanced, well-distributed system of parks and recreation areas.
12. Protect the recreation potential of open space areas and plan for their orderly use and development.
13. Provide connecting links between open space areas.

## EXISTING MAJOR OPEN SPACE AREAS

### OPEN SPACE COMPONENTS

Contra Costa County has a successful history of open space preservation. Open space which is considered permanent, that is, in public or related ownership, includes:

	acres land and water
Federal land	13,768
State land	13,794
County land	304
East Bay Regional Park District	14,631
East Bay Municipal Utilities District	21,059
Cities	2,232
Contra Costa Water District	265

This is a total of 66,053 acres, and does not include several small parcels of undetermined use. Additionally, there are thousands of acres of sloughs and offshore water--over 70 square miles--which are also considered permanent open space. These waters form a vast and beautiful "blue belt" of open space on three sides of the County, with public use rights but with little access to the shore.

In addition to permanent open space, over 60% of the County land area is in private open space that includes farmlands and developed areas of very low density, grazing lands, or in native brush and woodlands on the steepest slopes. Over 50,000 acres are included in the Agricultural Preserve Program. All of this must be considered temporary in nature since it is not publicly owned and no means presently exist to give it permanent open space status. Temporary open space also includes private recreation areas, such as golf courses and gun clubs.

A great deal of the tidal zone is owned by the State Lands Division, and may be granted to local communities. Clear titles to some of these areas do not exist because of inaccurate surveying.

Additional temporary open space exists in scattered undeveloped parcels of many sizes existing within urbanized areas. These can most truly be called "vacant" since their agricultural, vegetation and wildlife uses are close to nil. In many cases, their scenic open space value to the surrounding neighborhood is very high.



Major existing open space areas are shown on Map 1, Existing Open Space Inventory.

## PERMANENT OPEN SPACE

### Park Lands

Although parks are maintained by the cities and recreation districts, the most active programs of park acquisition and development are provided by the State Department of Parks and Recreation and the East Bay Regional Park District. All parks in the County are listed in the Recreation Element of the General Plan. The many valuable parks in the County are inland parks, with the exception of Point Pinole Regional Park on San Pablo Bay and tiny Miller Park on San Francisco Bay. These recent acquisitions have contributed over three miles of shoreline access--a scarce opportunity for which there is a great demand in the Bay Area.

### Watershed Lands

The 21,000 acres of watershed land owned by the East Bay Municipal Utilities District surround Lafayette, Briones and San Pablo Reservoirs. The District's program of opening selected areas to recreation, especially water-related recreation, has added greatly to the recreation opportunities in the County. There is no indication that additional watershed lands will be acquired.

### Public and Semi-Public Lands

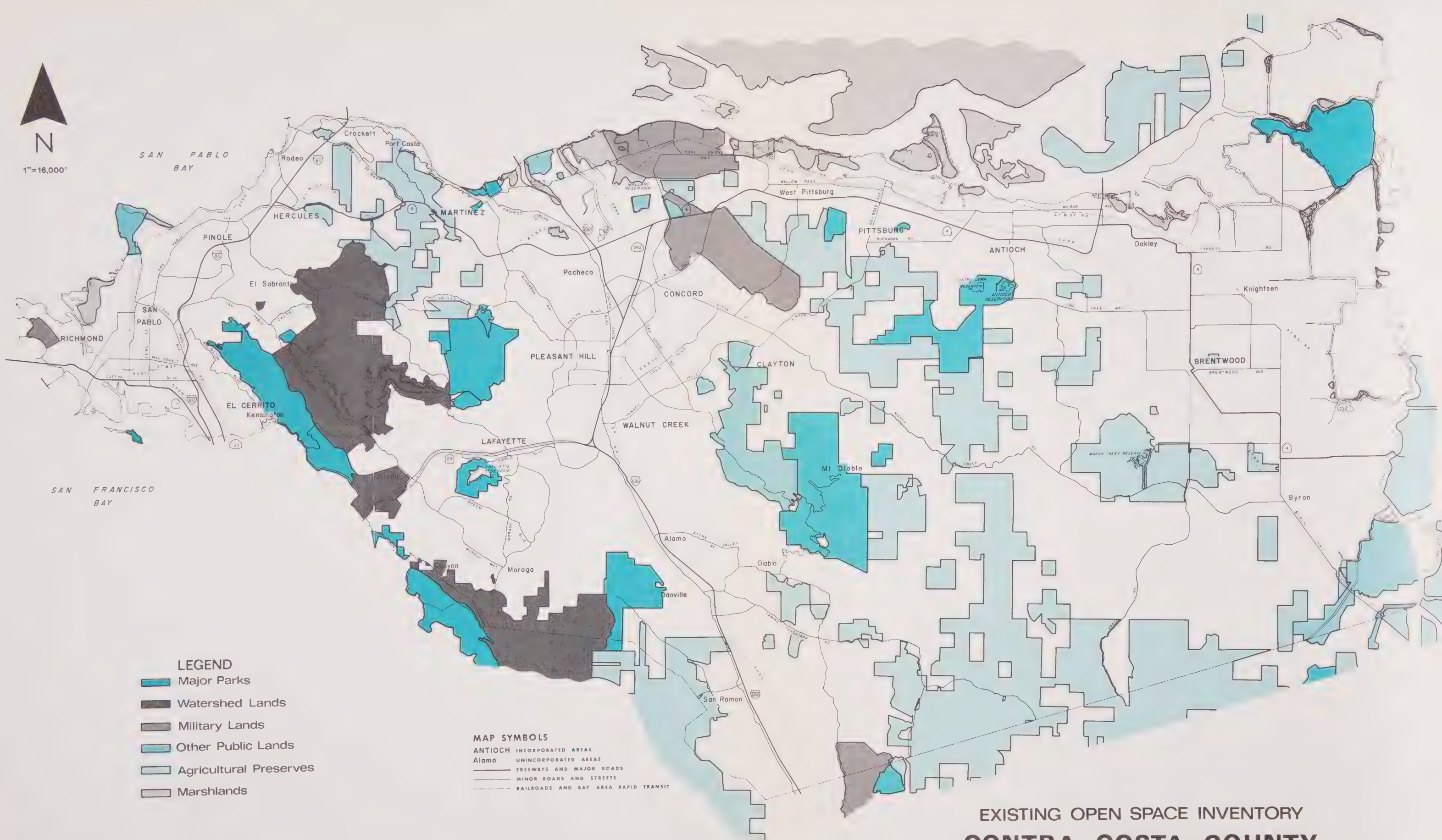
These are in a mixture of ownerships and uses, but are expected to remain primarily in open space for the foreseeable future. Included are lands owned by the U.S. Government, the University of California, the Boy Scouts of America, and private foundations.

### Tidelands

There is a strong case in the interpretations of Section V, Articles 2 and 3, of the Constitution of 1879 for considering tidelands permanent open space in the public trust for navigation, fisheries and related purposes in the public interest.

## OTHER IMPORTANT OPEN SPACE

### Agricultural Preserve



- LEGEND**
- Major Parks
  - Watershed Lands
  - Military Lands
  - Other Public Lands
  - Agricultural Preserves
  - Marshlands

- MAP SYMBOLS**
- ANTIOCH INCORPORATED AREAS  
Alamo UNINCORPORATED AREAS
- FREeways AND MAJOR ROADS
  - MINOR ROADS AND STREETS
  - RAILROADS AND BAY AREA RAPID TRANSIT

EXISTING OPEN SPACE INVENTORY  
**CONTRA COSTA COUNTY  
CALIFORNIA**

BASE MAP PREPARED BY THE  
CONTRA COSTA COUNTY PLANNING DEPARTMENT  
ADMINISTRATION BUILDING - MARTINEZ  
CALIFORNIA 94553 - JULY, 1970

REVISED MARCH 1974

The owners of these lands have contracted to remain undeveloped for a minimum ten year period in exchange for tax relief. This is important to farmers and ranchers who are suffering from a profit squeeze, and provides scenic quality, air quality, and continued production of food for all citizens at very little public cost.

#### Delta Waterways

The east county Delta is a resource of statewide importance. Water-related recreation is growing, especially in the vicinities of Bethel Island and Franks Tract State Park. Definite planning and design principles need to be applied to this open space in order to utilize the great recreation potential to the fullest without damage to water quality, recreation fisheries, and agricultural values.



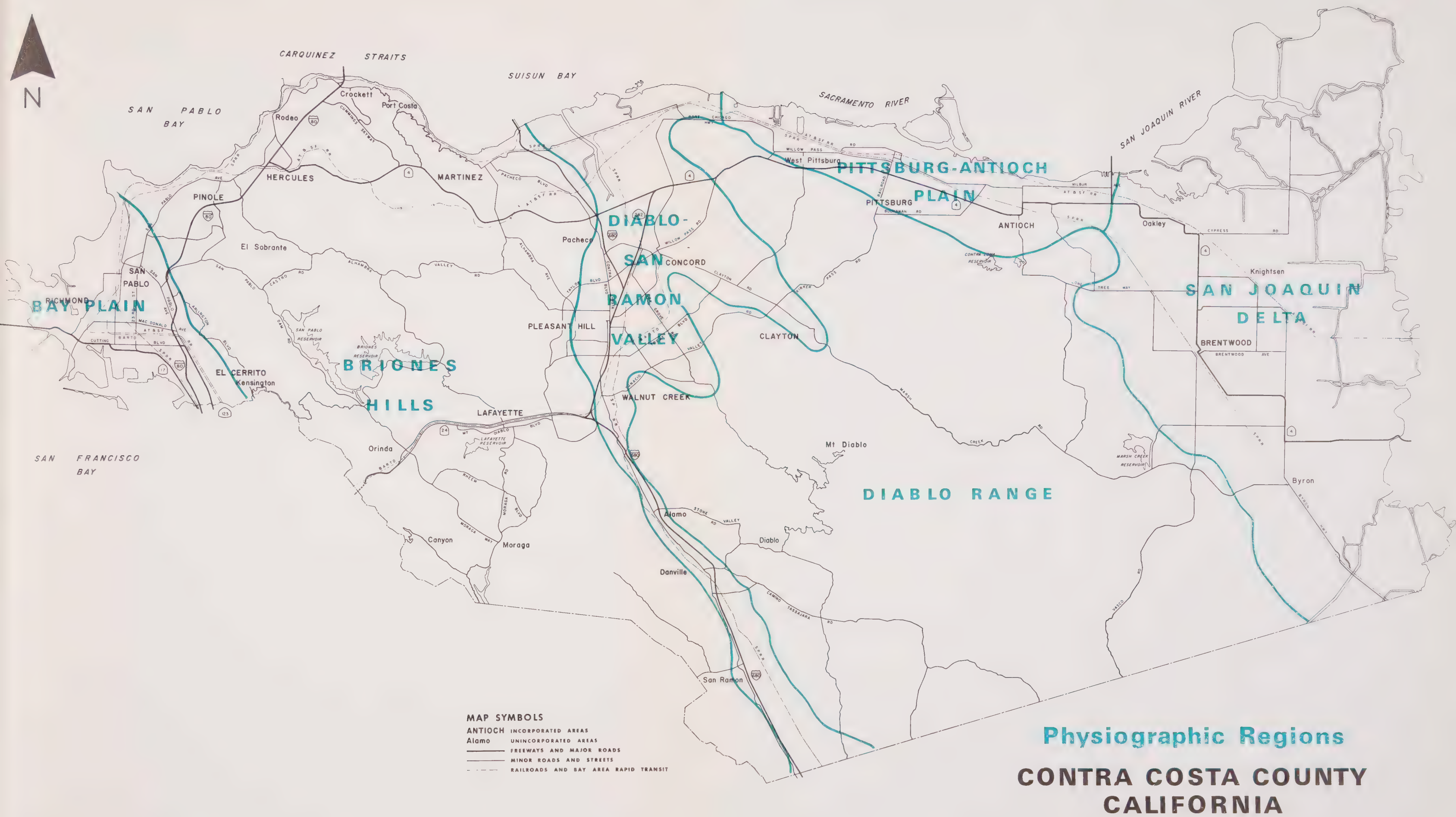
## DESCRIPTION OF THE COUNTY BY PHYSIOGRAPHIC REGIONS

During the preparation of the 1971 LUTS Inventory for the Conservation Element, the description of the land area of the County by physiographic regions was developed in order to make it easier to discuss conditions which are characteristic of only a part of the County. There is such a diversity of topography and climate types within County borders that some simplification was required. The regions, which are depicted on Map 2, are:

The Bay Plain region, which borders San Francisco and San Pablo Bays, ranges in width from 1.3 to 3.4 miles. It rises in elevation in the east to the Berkeley Hills. The Bayward portions of the plain consist of marshes and reclaimed tidelands. The climate is governed by proximity to the Bays and the Pacific Ocean. Summers are cool, winters are relatively warm with frost a rarity, and fog is common. The usual rainfall ranges between 20 and 25 inches, almost entirely in the rainy season from November through March. This region is extensively developed. Oil companies, Railroads, and the East Bay Regional Park District are major property owners.

The Briones Hills region includes the complex of hills and valleys between the Bay Plain and the Diablo-San Ramon Valley. Rising to elevations of 1000 to 1300 feet, the hills are noted for their rugged topography and unstable soils and geology. The principle valleys, all quite narrow, include Wildcat, Bolinger and Franklin Canyons, and San Pablo, Pinole, Rodeo, Alhambra, and Moraga Valleys. The climate varies vertically and horizontally. The higher ridges of the central mass of the range receiving an average of 35 inches of rain a year, while the valleys and canyons receive an average of 10 to 15 inches less. Moving from west to east, each little valley is a bit hotter in summer, and more subject to winter frost. Low density residential development is found along the western valley bottom, in the Orinda-Moraga-Lafayette hills, and the County seat, the small town of Martinez, lies in the northeast corner of this region. The East Bay Municipal Utilities District and the East Bay Regional Park District are major land owners in the Briones Hills region.

The long narrow depression of the Diablo-San Ramon Valley runs in a northwest-southeast direction the full length of the County. It separates the Briones Hills and the Diablo Range to the east. The northerly end of the valley broadens into a low, marsh plain which extends to Suisun Bay. Rainfall varies from an average of about 13 inches in the north to 20 or over in the south. Temperatures are more moderate along the north coast because of the marine influence. In the central and south valley region, higher summer day and lower winter night temperatures are experienced. This climate type is extremely attractive for the



THE PREPARATION OF THIS MAP WAS FINANCED IN PART THROUGH A COMPREHENSIVE PLANNING GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954 AS AMENDED AND THROUGH THE AUSPICES OF THE COUNCIL ON INTERGOVERNMENTAL RELATIONS, STATE OF CALIFORNIA.

California-style of outdoor living. A considerable amount of the former tidelands along Suisun Bay has been filled. Nevertheless, the amount of remaining marshes is significant for the preservation of migratory waterfowl and fishes. Fog is more frequent on the north coast. The relatively level valley floor is highly attractive for highways and urban development. The southern San Ramon Valley is presently less urbanized, but the population is growing rapidly.

The Diablo Range region is dominated by Mt. Diablo with an elevation of 3,849 feet, the highest point in the County. Narrow valleys between the ridges include Lone Tree, Deer, Briones, Green, and Sycamore, which are used for agriculture, especially grazing. Steeper slopes and inner ridges are too steep for agriculture but are well suited to wildlife preservation and watershed management. The northwest to northeast part contains good quarry deposits. The highest average rainfall, about 30 inches, is found on Mt. Diablo Peak. Most winters see a light snowfall there too. Moving east through the foothills, summer temperatures are greater, winter temperatures are lower, and rainfall drops off to an average of only 12 inches per year. The State of California is a major land owner with some 10,000 acres in Mount Diablo State Park.

The Pittsburg-Antioch Plain region is a low-lying area north of the Diablo Range and extending a mile or two to Suisun Bay and the San Joaquin River. Although land reclamation has resulted in some filled tidelands, extensive areas of marsh still remain. The natural oak grassland has been replaced by extensive residential and industrial development. Although this region is bordered by water, its climate is closer to an inland one, having 15 inches of rain a year, with a long warm summer season and a foggy cool winter. Industries and the Navy are major property owners.

The San Joaquin Valley and Delta region is highly developed in agriculture including row crops, pasture, orchards, and grazing on the inland slopes. The Delta area, consisting of sloughs and reclaimed marshes, is a rich agricultural region, but subject to flooding and subsidence. This semi-arid region has an average of about 12 inches a year rainfall, has long, hot summers with daytime temperatures above 100 degrees and has cool, foggy winters. The State of California is a major property owner since it acquired Franks Tract after the levee broke in 1938 and more recently has acquired the Clifton Court Forebay as part of the California Water Plan. This region is characterized by farms and small rural communities. Commercial water-related recreation such as marinas and party boat fishing is a growing business in the northern Delta, especially on Bethel Island.



Open space and conservation guidelines for each of these physiographic regions will differ because each presents a different set of environmental conditions.

## MAJOR OPEN SPACE AND CONSERVATION ISSUES

Although there are a number of problems related to the environment which deserve the attention of the community and which must be dealt with if the resources of the County are to be conserved and utilized to their maximum potential, there are twelve issues of such immediate importance that deserve special attention. These are:

### I The Defense of Agriculture

The conflict between the need to retain agriculture as an important land use in the County and the need to provide for a growing population can be expected to intensify with each passing year. The most productive agricultural areas also attract development, and in the Pittsburg-Antioch Plain, east county, and greater San Ramon Valley area, the relatively lower cost of land is a special attraction to developers of mass housing and to 1-5 acre homesites achieved through minor subdivision of agricultural land. A "balance" of land uses which reserves only the least productive land for agriculture is not satisfactory, but is a questionable effort to reserve open space for public enjoyment at no public cost. An equitable solution must include strong defenses for agricultural land and economics in areas in which agriculture is highly productive.

### II Scattered Development

The concept of conservation of resources requires considerable attention to urban growth patterns. Urban sprawl, which by-passes close in and available land in favor of premature development in outlying areas, is not only damaging to agricultural values, but is also very wasteful in terms of public costs for roads and road maintenance, utilities, and municipal services such as sewage treatment and police and fire protection.

### III Risks to Life and Property

An issue which is becoming critical is the conflict between development to meet present and future needs in the central and west county and the need to protect future property owners--and the public--from risks to life and property from geologic hazards. Extensive areas of the hills are extremely unstable and subject to earth and rock slides. The next major earthquake will undoubtedly inflict considerable damages. Besides the costs to individual families and businesses, the public costs to all taxpayers for disaster relief, the repair and rebuilding of streets and utility lines, schools and other facilities, will be considerable. Although

there is no way to eliminate the risks of natural disaster which are inherent in the Bay Area environment, means must be found to identify geologic hazards and reduce the risks to present and future residents to an acceptable minimum.

#### IV Water-Related Recreation

Growing demands for water-related recreation opportunities and economic growth through many associated direct and indirect commercial enterprises have not been sufficiently recognized as an important aspect of the County's future. In order to insure that such growth is located and designed to maximize recreation values but minimize damage to environmental values, the problems involved need to be discovered and resolved before recreation sprawl destroys the opportunity for orderly exploitation of the great Delta potential.

#### V Clean Air

The quality of the air in Contra Costa County is not as high as it should be to benefit human health and crop and livestock productivity. Air quality problems are not entirely local, but have regional, state, federal and even global implications. The Bay Area Air Pollution Control District has jurisdiction over stationary sources of air emissions in the County, but no control over vehicle emissions, yet the internal combustion engine is the major source of air pollutants. The role of the County now is to make decisions to prevent further degradation to local air quality in the short run and to support regional, state, and federal efforts to achieve clean air in the more distant future.

#### VI Clean Water

Like air quality, water quality is of great concern in the County, but the problems cannot be solved at only the local level. And, as is true of air, the discharges which occur in this County may have serious effects elsewhere. The role of the County now is to make decisions to prevent further degradation of off-shore waters, to protect the tidelands which are vital to commercial and sport fisheries and other wildlife, and to support the efforts of other levels of government to achieve clean water in the future.

#### VII Scenic Beauty

The scenic quality in the County is so great that it is difficult to imagine a time when this might not be true. Large segments of the



population have spoken strongly to this issue and made it absolutely clear that the visual qualities of both the natural and man-made landscapes are of major importance. Visual quality must be supported before the fact of development, not after, and must be an integral part of both planning and specific designs in order to maximize the existing beauty of the County and ensure that future development does not lead to blight.

#### VIII Soil Erosion and Silting

Although surface soil erosion is sometimes not considered a problem of county-wide importance, erosion of overgrazed and graded slopes may lead to property damages on the site and public costs to dredge drainage channels downstream. Silting in drainage channels downstream and soil erosion and channel cutting in the upper watershed are related to the increase in paving and other impervious surfaces and to lack of adequate revegetation programs. The costs include reduction in property values in the watershed and the public costs of repairing damages to flood control works.

#### IX Earth Resources

There are a number of known natural earth resources in the County which are not in great demand now, but which may be needed at some future time and so require measures for their protection. Among these are valuable deposits of sand and rock, high quality underground water supplies, and minerals such as the presently unworked mercury mines in the Mt. Diablo region. Sand, gravel and rock will be needed in large quantities to meet the future development needs of the County. Local materials should be utilized as much as possible in order to prevent excessive transportation costs.

#### X Preservation of Natural Waterways

The problem of how to retain waterways in a natural state rather than engineer them into single-purpose flood control channels is an issue of great interest in the entire Bay Area. In this County, as in others, city dwellers are more and more interested in conservation of waterways, yet this goal usually cannot be achieved after the flood plain has been developed. Flood plain management programs are excellent from an environmental point of view, but require planning foresight and a willingness to act before extensive development takes place in flood prone areas.

## XI Preservation of Wildlife

Wildlife management is complex and requires consideration of many interacting factors. Single-purpose programs to eliminate certain species may result in imbalances which can lead to crop losses, property damages, and damages to valued natural resources, including other wildlife. Programs from various levels of government need to be coordinated in order to insure that a broad range of factors is considered, including the preservation and enhancement of all wildlife, which is the property of the people of California.

## XII Marauding Dogs

Seemingly not critical, the problem of marauding dogs is actually serious enough to the retention of the County's livestock industry to deserve special mention here. As the County develops, it will also acquire a growing population of family dogs, and so an increase in harassment and predation of sheep, cattle, and horses, as well as of wildlife. Scattered urban development which intrudes into agricultural areas aggravates this problem. Although an epidemic of rabies is not considered a strong possibility at the present time, free-running, unvaccinated dogs could cause an outbreak of rabies in dogs and humans, since marauding dogs attack skunk and fox in which rabies is endemic.

These issues are discussed more extensively under their respective headings in the Findings and Policies section of this report.

## THE OPEN SPACE-CONSERVATION PLAN

### THE MAJOR OPEN SPACE AREA

The Major Open Space Area delineated on the plan (Map 3) includes land which should be used for agriculture and residential farming, State and Regional Parks, watershed lands, open water and tidelands for the preservation of fisheries and wildlife, areas which contain mineral deposits with potential commercial value, and scenic ridges which are highly visible from urbanized areas. The policies of the Findings and Policies Section provide guidelines for supporting the utilization of natural resource areas to the fullest and for preserving their productivity for future use.

Beneficial environmental effects of the plan which do not show on the plan map but which result from plan policies include:

- preservation of agricultural districts
- options for future recovery of mineral resources
- protection for aquifer recharge areas
- wildlife preservation
- erosion control
- preservation of natural waterways
- air quality considerations in agricultural areas
- commercial and commercial recreation use of fish and waterfowl resources

It is expressly understood that the lines defining open space are imprecise. Where a given land holding is bisected by the line indicating open space, the entire parcel may be considered for development to the same extent that it would have been had the land holding lain entirely outside the line defining open space.

### THE URBAN GROWTH AREA

The Urban Growth Area includes land for development into all urban uses, and open space within the Urban Growth Area for protection of life and property from excessive risks of slope failure and flooding, and preservation of major ridges for visual quality.

Effects of the plan policies which do not show on the plan map but which are benefits of the plan policies include:

- reduced taxpayer costs for extending utilities, roads, and other urban services to outlying areas
- reduced dollar and environmental costs of engineered flood control works



reduced idle land within the urban complex  
retention of the County's natural scenic beauty  
greenbelting of urban areas to give physical form and a sense of community  
references for other planning agencies so they may plan for the shorter  
range future more effectively.  
landscaping with plant materials which are adapted to local conditions and  
visually compatible with the scenic qualities of the natural landscape

Open space within the Urban Growth Area includes local parks and other recreation areas, watershed lands, major scenic ridges shown as open space on adopted local area plans for the unincorporated County, and major city recreation area. Other urban open space areas include natural waterways and overly steep or otherwise hazardous areas. These will be identified during the next, more detailed phase of the plan.

Interestingly, the Urban Growth Area to 1980 closely resembles the projected urban areas in the 1963 Land Use and Circulation Plan. The population increase of approximately 150,000 between 1962 and 1972 did not require full utilization of the projected urban area, which was intended to serve a population of 1,112,206 in 1985. The Urban Growth Area of this plan reflects an estimated additional population of 90,000 to 110,000 by 1980, for a total population of approximately 690,000 persons. Clearly, a slower growth rate to 1980, and a smaller total population, indicates less land needed for urbanization until 1980 than is shown on the old general plan for 1985.

The Urban Growth Area delineated on the plan map includes presently developed land and water, areas suitable for infilling, and outward extensions in areas considered appropriate for development because of proximity to urban centers, growth trends and natural capabilities. This plan does not distinguish among various types of urban uses.

The Urban Growth Area contains an adequate amount of land for projected development well beyond 1980 and also includes a generous margin of developable land in order to avoid excessive inflation of land costs and to permit choice site selection for all types of development, from level valley floors to view lots in the hills.

## Eastern County Reserve Area

Normally, only relatively small areas having unique problems which cannot be resolved at the conclusion of a plan-preparation effort are given "reserve area" designations in the General Plan. Eastern Contra Costa County is the exception to this rule inasmuch as the area is large and the reserve area designation is made in anticipation of a scheduled Area General Plan study.

The Eastern County Reserve Area is created because of concern expressed by many residents of the area that the "re-adoption" of predominantly open space land use (indicated for the area in previous County General Plans) in this Conservation-Open Space Plan would prejudice the formulation of an Eastern County Area General Plan and could prove unduly onerous to the area if subsequent measures were imposed to further limit development in open space areas. A general plan committee for Eastern County is being formed to make definitive recommendations regarding its future land use and growth.

The Eastern County has several key characteristics that must be considered in processing development requests during the period of General Plan review. Eastern County has transportation facilities, utilities, and community facilities that are scaled to and planned for rural to very low intensities of development. Also, the preservation of agriculture, the protection of prime agricultural lands, the safety of reclaimed lands and the fragility of the Delta environment must be among the subjects to be considered in the revision of the General Plan for Eastern Contra Costa County.

In view of these characteristics and the consideration that the long-adopted General Plan is in effect suspended by the Reserve Area designation pending completion of the area plan revision, it is necessary that no developments be approved in the Eastern County Study Area that would substantially increase its population, add to non-farm development in areas being used for agriculture or with productive agricultural soils, substantially add to population or population densities in areas not served by both sanitary sewer and water facilities, change significantly the character of any part of the area, markedly expand any non-agricultural use area, generate significant volumes of traffic or origin-destination points, create development in areas where there are unresolved questions of safety, result in public facilities operating over their design capacities, or which may have a substantial adverse effect on the environment.

## Orinda Study Area

Unlike the Eastern County Reserve Area, the Orinda Study Area did not originate with the Open Space-Conservation Plan but with the previously adopted Orinda General Plan (January 1973) which placed 13,176 acres of land, consisting largely of Gateway Valley and ridge lands along the Alameda-Contra Costa County boundary, in a Study Area classification.

The Orinda Plan's Study Area deserves express mention in this Open Space-Conservation Plan because the Orinda Plan's policy is that the area should not develop until a special study has been done for it--thereby effectively if temporarily holding it in open space use--and because the study will consider the feasibility of retaining all or part of it in longer-term open space uses.

## OPEN SPACE-CONSERVATION PLAN DISCUSSION

### The Agriculture Development Dilemma

The key feature of this plan, a matter of overwhelming importance in the future of the County, is the resolution of the basic incompatibility of agriculture and urban development, and the inability of agriculture to withstand urban pressures. Many productive agricultural regions of California are experiencing the same problems created wherever urban growth is rapid. Although it is a matter of state concern, and a major reason why the state legislature now requires open space and conservation plans, dealing directly with the problem has been placed in the hands of local governments. The following discussion explains the problem and why action at the county level is imperative.

**Agricultural Preservation.** As identified in the 1963 General Plan, the following problems face Contra Costa County agriculture:

Competition for land with suburbs and industry, especially for Class I, II, and III land. These soil classes, established by the Soil Conservation Service, are well suited to orchards and highly productive row crops, and are also the most attractive for development where they are close to growing cities and convenient highway systems. This is clearly shown by the intense urbanization on Class I and II soils in the Bay Plain and Diablo-San Ramon Valley regions.

High operating costs, including taxes.

Conflicts with suburban interests and recreation interests.



Smog damage to crops.

Salt water intrusion.

The 1963 plan strongly emphasizes the importance of providing "selected areas extensive enough to permit and encourage the continuation of a vital, productive agricultural program for the County. Methods for the preservation of such productive agricultural areas can be developed as an important activity in such a program."

The decade following the adoption of the plan has seen an intensification of the five problems recognized in 1963.

An increase in the rate of minor subdivisions in the vicinity of Oakley and Brentwood, continued urbanization of orchard and grazing land in the San Ramon Valley and west into Moraga, and removal of some 3000 acres of agricultural land in the southeastern county to serve the California Water Plan.

Continually increased operating costs plus greatly increased tax assessments based on increased land assessments, and extensions and creations of taxing districts intended to provide essentially urban services, including water, sewage treatment, and mass transportation. The profit squeeze on farmers and ranchers is greater now than in 1963.

Intensified pressure on agriculture by the intrusion of residential areas and fragmentation of large contiguous areas in agriculture into a "patchwork" of agricultural and urban development. Increasing use of Delta sloughs by recreation boaters has increased the risk of levee damages from power boat wakes.

Increased vehicular traffic in agricultural areas prone to concentrations of air pollutants in the San Joaquin Delta and San Ramon Valley regions.

No assurance that salt water intrusion into the eastern county has halted or will not be worsened by the proposed peripheral canal.

It is clear that the problems described 10 years ago have not been resolved, nor have the hoped for methods of preserving agricultural areas been developed.

Weighed against these pressures on agriculture, there is the state's Agricultural Preserve Program, now including over 50,000 acres in ten year contracts, which provides tax relief for the owners and a temporary open space holding action in the interest of the County as a whole.

As has been clearly stated in the Land Conservation Committee Report of January, 1972, Preservation of Prime Agricultural Lands in Eastern Contra

Costa County, implementation of the State Land Conservation Act of 1965 (Agricultural Preserve Program) cannot alone be relied on to preserve agricultural land in the east county. Left to chance, this agricultural district will continue to be eroded. Commercial agriculture cannot compete with speculative and development buyers for prime land in the open market.

It is evident at this point in time that the state alone cannot be held responsible for agricultural preservation in this County. Local controls must be developed and firmly applied in order to conserve agricultural productivity and relieve the increasing pressures on commercial agriculture. This goal can be realized by two means: 1) ensuring that non-agricultural uses are not permitted to damage agricultural needs, and 2) tax relief.

There are several tools available to the County in support of agriculture. Decisions made at the County level are most influential in guiding regional and State plans for locating growth-inducing highways, for example. Among several direct means of controlling land use are adopted policies and zoning. Agricultural zoning should be developed which reflects the needs of commercial agricultural production and not merely be an interim classification between commercial productivity and low density residential use. However, because of the almost 900 existing parcels which are 10 acres or less in size, in the east County along very low density residential-farming may continue to be blended with true commercial agricultural production. While these small properties do not make a major contribution to the production of food supplies, except for local families and their livestock, the properties are essentially open and provide a desired way-of-life for a portion of the County's population.

The profitability of agriculture must be a consideration in retaining agriculture as an important part of the County's economic base. Therefore, the County should actively encourage additional land to come into the Agricultural Preserve Program as means of tax relief, and should adopt a position of actively supporting the de-annexation of lands designated for agriculture from taxing districts which do not serve agricultural needs as an additional means of relief. Land designated as having commercial agricultural production as its "highest and best use" should not be required to pay for the very services which, because they are oriented to urban uses, can strike the death knell for agriculture.

Scattered Development. A commitment to insuring the continued productivity and profitability of agriculture requires careful consideration of urban sprawl, a wasteful development pattern which has afflicted many

portions of the Bay Area, including this County. Sprawl, or scattered and premature land development in outlying areas is extremely destructive of agricultural values. The concept of conservation and wise utilization of resources also makes a discussion of urban sprawl necessary because it is wasteful to remove the most productive land from agriculture prior to its being required to meet the housing needs of the growing population and because the taxpayer costs of sprawl are high. Costs to taxpayers include dollar, social and environmental costs.

Dollar costs include:

Extensive road networks to accommodate a thinly scattered population.

Costly extensions of utility lines through agricultural areas to serve outlying developments.

Possible deterioration of older area facilities while funds are directed to service newer areas.

Costs of providing urban level services at a distance from the urban center, and to a scattered population.

Loss of revenues from vacant land within the urban complex which is by-passed in favor of developing outlying lands.

Non quantifiable but nonetheless real social and environmental costs include:

Speculative pressures on agricultural land values.

Reduced agricultural profits from premature inclusion in urban utility and service district.

Damage to agriculture from fragmented parcels, increased vehicular exhaust emissions, and suburbanites and their pets.

Premature loss of soil and mineral resource productivity and limits on the option for future use of such resources.

Difficulty of local government in trying to disperse limited financial resources to scattered areas which may lead to inferior services such as fire and police protection.

Lack of community identity.

An alternative to scattered development is infilling--the utilization of large vacant parcels which lie close to central urban areas and existing major



transportation routes rather than permitting these prime development lands to lie idle and unproductive while developing isolated outlying valleys in essentially agricultural areas. For every dollar and environmental cost of sprawl, there is an equivalent conservation of dollars and environmental values received as public benefits from urban growth which proceeds in an orderly and infilling pattern.

All regions of the County **have** experienced some degree of urban sprawl. In the western, central, and north-central areas, large acreages of predominantly level land have been committed to development through the frequently discontinuous pattern of building that has occurred there. Most often, this development was in accord with the prevailing general plan. Such plans typically looked ahead many years or decades but did not provide for a sequence of expansion to achieve their ultimate expectations. As a result, a substantially larger County population can be accommodated in these committed-to-development areas through the process of infilling and contiguous expansion.

Sprawl is occurring in the vicinity of Brentwood in the form of increasing fragmentation of parcels and reduction in parcel size. Although this form of urban sprawl is not as visible as scattered subdivisions, it is an indicator that the area is going out of agricultural production because of the reduced parcel size and because of the increase in speculative non-resident ownership. Eventually, the demands for public services will lead to the costs noted above.

There are a number of means of guarding against sprawl and supporting agriculture and other open space uses. Perhaps the most important of these is citizen awareness and a strong commitment in each developing community to conserve the important open space areas of the County for productive uses now and in the future.

The Open Space-Conservation Plan itself is a reference for relating proposed action to County policies. Utility and Service district plans, transportation, recreation, and other major public and private action proposals can be planned and designed to meet the needs of the growing population within a framework of policies for environmental enhancement.

Zoning and other land use regulations are also tools for achieving the objectives of the Open Space-Conservation Plan. The Urban Growth Area itself is not a zone, but its configuration, changing through time, will be determined by the open space uses established outside its borders.

## Non-Agricultural Open Space Uses

The effects of sprawl have been discussed with reference to agriculture because agriculture has the greatest economic significance of the several open space uses and also occupies the greatest portion of the Major Open Space Area. However, urban sprawl also affects other environmentally important uses of open space.

Terrestrial wildlife populations are severely pressured by urban development. Removal of habitat conditions primarily native vegetation, disruption of normal migratory routes, prevention from reaching water, decimation from domestic dogs and cats - these and other impacts are continuing pressures on wildlife. When such development occurs in outlying areas, the impacts on wildlife may be greater than the limited extent of such development may first appear to cause. Aquatic wildlife, especially the commercial and sport fisheries and waterfowl, may suffer if urban sprawl in the form of poorly located and designed recreation and water-related commercial facilities result in fouling the water or disturbances to spawning and breeding areas. These problems are more fully discussed in the Findings and Policies section.

Wildlife maintenance has always been a secondary use of open space areas used primarily for agriculture, watershed management and recreation. As meeting the needs of a growing population results in greater and greater need to push resources to their maximum there is a tendency to eliminate wildlife forms which are considered inconsistent with the primary use of the land. This results in an impoverishment of the environment and a loss of wildlife values to all residents. In order to preserve and enhance the long-range values of the environment, an attitude of tolerance for wildlife should be incorporated into all programs in the Major Open Space Area. For example, major parks should be large enough to provide for recreation needs without excessively encroaching into important habitat areas, and levee maintenance programs should include the retention of vegetation for use by upland birds during the time when fields are bare.

The remaining remnant of salt and fresh water marsh areas are planned for waterfowl and fisheries maintenance as their primary use since these areas are essential to the preservation of wildlife. Recreation and commercial development plays a secondary role here, and should be permitted to whatever extent is compatible with the primary use.

Since the precise location and extent of mineral resources is not known, and because these deposits may be needed at a future time, especially sand, gravel and crushed rock for urban development, the recovery of these materials has been established as an appropriate use in the Major Open Space Area. Here too, the prevention of urban sprawl will be a material aid in keeping options for future recovery open.



## FINDINGS AND POLICIES

This chapter includes statements on open space, conservation and development conditions and problems based on analysis of the information in the technical background materials prepared for the plan.

The topics for which findings and policies are listed in the text which follows are:

- Agriculture
- Development
- Urban Open Space
- Bay-Delta Recreation
- Geology and Soils
- Miner Resources
- Hydrology and Water Quality
- Air Quality
- Vegetation and Wildlife
- Aesthetic Qualities and Historic Features

The policies at the end of each topic heading reflect both the preceding findings and objectives of this plan, and they are intended to lead directly to the recommendations of the Action Program.

### AGRICULTURE

#### Agriculture Findings

1. The enormous dollar and resource demands required to support urban development contribute to the economic and environmental pressures on agriculture. The profit squeeze on farmers and ranchers is intensified when agricultural land is taxed to raise funds for services and facilities required by urban populations. The higher selling value of land for development or speculative holding makes it difficult for anyone to purchase land on the open market for agricultural purposes.

Natural resource demands include the land required for development, additional land for wide roads, schools, fire stations and other facilities, the use of the air for the disposal of vehicular and other wastes, the use of the water for sewage and industrial waste disposal, harassment of live-stock and objections to crop spraying, and, depending on the location and physical characteristics of the development site, may include a reduction in the yield of wells or an increased risk of flood damages.

2. The Soil Conservation Service classifies soils on a scale of I through VIII, according to their value for agriculture and their limitations for cultivation. Class I and II soils are considered prime soils for agriculture.

Less than 40% of the County has Class I, II, or III soils--the best for cultivated crops, orchards, and irrigated pasture. Of this, some 60%, or approximately 25% of the land area of the County located in the San Joaquin Delta region, can reasonably be retained in crop production. The rest is either already urbanized, lies undeveloped but essentially within an urbanizing area, or is in the direct path of urban growth.

Class IV land is marginal for cultivation but excellent for grazing. Class VI land is also good grazing land. Together, these soil classes comprise approximately 25% of the County land area. On the east side of the Diablo Range, urbanization is not anticipated on these lands prior to 1990. Therefore, it is felt that special planning is not required at this time. On the west and south of the Diablo Range, however, the situation is very different. Urban development is moving south from Walnut Creek and north from Dublin along the San Ramon Valley-Highway 680 corridor, and east and west into the excellent rangelands.

A commitment to retaining grazing requires an equal commitment to the control of development in the south and west Diablo Range region.

Class VII and VIII soils comprise approximately 26% of the land area of the County. These classes include steep and easily eroded slopes, rock-land, marshes, and filled tidelands. Class VII lands are presently grazed in more favorable locations in the Diablo Range and Briones Hills regions, but the range is not of an excellent quality and will not support enough livestock to more than pay the taxes in most cases. Urban development in the Lafayette-Orinda-Moraga area, both on Class VII soils and the better valley floors, has severely limited the potential use of the remaining open space for commercial agricultural production.

Class II soils well suited to crop production occupy much of the Pittsburg-Antioch Plain region. Urban development here is stimulated by the desire of Pittsburg and Antioch to expand and diversify economically and socially and by the relatively lower cost of land for mass housing.

Scattered development and fragmentation of parcels from Oakley to Brentwood along the Highway 4 corridor is gradually eroding the agricultural values of this portion of the east county. This is taking place on the highly productive Class I and II soils--the best in the County and truly "prime soil".

Although there are no public programs available to reassemble these fragmented parcels into large farming units, retaining these soils in an essentially open state for very large residential lots, gardens, and keeping livestock, will prevent the total and unalterable change of the area to urban and suburban uses.

3. The Agricultural Preserve Program, under the State Land Conservation Act, is a means of holding land in agriculture for the short range future. Under a 10 year no development contract, owners receive property tax relief. Reduced revenues to the County are partly reimbursed through the State Open Space Subvention Act fund. Extending the lands in the Agricultural Preserve Program, especially close to areas slated for growth prior to 1980, would be of significant aid in defining the Urban Growth Area and also aid in maintaining the profitability of agriculture.

#### Agriculture Policies

Large contiguous areas of the County should remain in agricultural production. In order to achieve this, the following policies should be implemented:

1. Modify the agricultural zoning to more fully reflect commercial agricultural needs and apply it to areas delineated as open space for agriculture where land is in agricultural production.
2. Land in agricultural production in the Open Space Area should be de-annexed from special taxing districts which are intended to serve urban needs, such as sewage treatment and local parks.
3. Limit the expansion of domestic water and sewage services to the Urban Growth Areas.
4. Encourage owners of agricultural land to enter the Agricultural Preserve Program.
5. Construct no growth-inducing highways and roads to serve areas outside the Urban Growth Areas.
6. Within the Major Open Space Area development may be permitted which is directly related to agricultural production, recreation, water-related recreation, and the utilization of mineral, soil, water, and animal resources. In addition, very low density residential development of an essentially open character or agricultural-residential uses of similar character may be appropriate. The existing A-2 zone,



which permits one acre parcels, should be changed to more nearly reflect the need to keep the area essentially open.

7. Water lines which must be constructed across the Open Space Area in order to serve parks or other open space uses should be of a size adequate for the use, but should not be of a growth-inducing size and adjacent property owners should not be required to pay for this service.

## DEVELOPMENT

### Development Findings

1. The population of the County is expected to increase from 595,000 in 1973 to roughly 685,000-690,000 by 1980. There is an abundance of buildable land for these additional 90,000 people--to house them, provide commercial and industrial jobs and schools and other community facilities. Every community in the County is expected to share in this economic and population growth. Rapid growth requires special care in planning. Unplanned, large increments of growth scattered across the land are damaging to the surrounding agricultural values and are very costly to taxpayers since outlying developments rarely pay their full costs for services and facilities. There is also the cost of extensive areas of unproductive, idle land within the urban complex--land neither used for agriculture nor development--when out-lying areas undergo development prematurely.
2. The pattern of development along the Highway 4 corridor from Oakley to Brentwood is not as visible yet because it does not consist of major subdivision, but rather is the continual fragmentation of parcels by minor subdivision into lot sizes which are suited to country living, not commercial agricultural production.
3. A well defined adopted Open Space-Conservation Plan is a useful tool in aiding service districts to plan efficiently and at the least cost for expansion of services. Programmed development within a stated time frame is useful to property owners as well as service districts in making decisions for the shorter range future with a sense of security and confidence that a series of rapid, unexpected changes will not destroy carefully made plans and will not reduce the value of land and other investments.

Zoning and other means of regulating land uses are flexible, short-

range tools which can be used to reduce premature development at a distance from urban centers.

4. The larger and more densely settled areas become, the more important it is to provide open space within the urban complex for recreation, physical and psychological well-being, and beauty. Areas which pose a severe risk to life and property should not be developed for residences, schools, hospitals, or for the storage of materials which could cause damages in case of disaster. These include fault zones, areas known to have poor seismic stability, overly steep and unstable slopes, natural waterways and flood prone areas, highly flammable vegetation, and areas vital to the preservation of wildlife populations. Areas severely limited in their development capabilities often prove highly valuable for open space uses such as trails, outdoor recreation, keeping livestock for pleasure, and scenic quality. The County should take an active role in discovering, planning, and establishing these uses on undevelopable land within urbanizing communities.

#### Development Policies

It is not the purpose of the Open Space-Conservation Element of the General Plan to devise specific policies for urban areas. The development policies here are related to the utilization of land resources for all types of urban development and to the open space needs of urbanized areas. The countywide Land Use Plan being developed as part of the Land Use and Transportation Study, local area plans for unincorporated communities, and the Open Space and Conservation Elements of the General Plans of the incorporated cities will be used to further refine and detail this plan prior to the preparation of the final plan and will influence its policies.

1. In order to reduce adverse impacts on agricultural and environmental values, and to reduce urban costs to taxpayers, scattered development in outlying areas should be minimized.
2. To the greatest feasible extent, urban development in the shorter-range future should take place within areas designated for urban growth.

#### URBAN OPEN SPACE

##### Urban Open Space Findings

1. Open space is an important part of any urban community. As cities become larger and more densely developed the necessity of providing

adequate open space increases, yet open space must be secured before or at the time of development. It is very difficult to provide open space after the fact of urban development. Open space needs should be an integral part of community level planning and the design of properties.

2. Although urban open space is often thought of as parks alone, there are in fact several kinds of urban open space, each with its particular values. Besides parks and playgrounds, cities often include:

- Large paved plazas ringed by massive buildings and containing fountains and sculpture as well as trees and flowerbeds.

- Tree-lined avenues and landscaped road intersections.

- Landscaped buffer zones to separate incompatible uses and obscure visual blight.

- Hike and bike trails interwoven with and partly sharing the vehicular circulation system.

- Landscaped properties which provide visual open space for the passerby.

- Interior gardens and recreation facilities as part of homeowners association and apartment complexes.

- The family backyard, the patio, and even the apartment deck with its potted plants and chairs for sunbathing.

- Creek channels and steep slopes often clothed in native vegetation types.

Open space provides a number of benefits including:

- A place to enjoy sports and exercise for all age groups.

- Visual relief from the harsh surfaces and glare of the urban landscape.

- Opportunities to study and enjoy nature.

- Modifying the local climate, tending to reduce temperature extremes.

- Muffling harsh urban noises.

- Creating a beautiful community.

- Dollar benefits from increased attractiveness and value of properties.

These benefits add up to the kinds of amenities which materially affect the quality of life and contribute to the physical and psychological well-being of all residents. For most people, city life without open space

would be deeply unsatisfactory.

It is not a purpose of the Open Space-Conservation Plan to deal with urban design or all types of open space found in local communities. The types of open space appropriate for discussion in this document are related to recreation resources and environmental factors such as hazards to life and property and visual quality.

3. Most of the local parks in the County exist within incorporated cities, yet a large segment of the County's population lives in unincorporated areas. The 1970 Recreation Element of the General Plan discusses this in detail and recommends objectives and policies to reduce the inequity.
4. There is very little urban development in the County--or in the Bay Area--on slopes of 26% and over (a 25% slope indicates a 25-foot rise in elevation for each 100 feet of horizontal distance; this is frequently called a 4 to 1 slope). The absence of development is due to high costs for site preparation and construction. Steep slopes are highly prone to soil and rock slides. When large parcels are developed, the usual practice is to leave such overly-steep slopes as open space.

Valley bottoms, even if flood prone, attract development because construction costs are lower and the design of large properties does not have to reflect the lower densities required on difficult terrain. Unfortunately, buildings sometimes encroach into the creek channel itself and are subject not only to flooding but to damages from channel erosion.

5. Areas that are steep or lie alongside natural waterways have high recreation values. Playground uses such as baseball fields are suited to relatively level creekside areas. The trail, picnic, overnight camping, and nature study values of steep areas are often much greater than for the same activities on the usual flat city park site.

In the hilly regions of the County, a great variety in recreation opportunities can be made available to local communities by coordinating recreation needs with the need to retain steep land and creek channels as open space for public health and safety. This is consistent with the concept of conservation and maximum utilization of natural resources.

6. There is a great interest in the preservation of major scenic ridges in order to retain the high visual quality in the County. Local area planning activities will locate these where they lie within urban areas.



These ridges, like unbuildably steep areas, may be well suited to recreation or keeping livestock for pleasure.

### Urban Open Space Policies

In order to provide for the safety, health, and well-being of urban residents, the following policies should be implemented:

1. Achieve a well-balanced distribution of local and community parks related to present and anticipated future recreation needs.
2. Work with unincorporated communities to devise means of providing needed park and recreation services.
3. Renew efforts to implement the adopted Recreation Element of the General Plan.
4. Provide an urban trails system for local use and with connections to the county and regional trails.
5. Utilize open space for public safety and resource conservation for appropriate recreation activities within the framework of providing a variety of recreation opportunities for all segments of the community.
6. Encourage developers to design properties with open space values in mind.
7. Insure that the Planning Agency reviews and Environmental Impact Reports for development plans include assessments of the open space needs met in the proposal.

### BAY-DELTA RECREATION

#### Bay-Delta Recreation Findings

1. There is a great interest in the County in recreation areas. The East Bay Regional Park District is actively pursuing park acquisition, and the East Bay Municipal Utilities District is opening selected reservoir areas to recreation uses. EBMUD and other utilities are making rights-of-way available for trail use. Mt. Diablo State Park is a valued recreation resource for approximately 250,000 annual visitors. Together, these programs constitute a wealth of recreation opportunities, including some swimming, fishing and boating, but these parks are predominantly for land-oriented uses. Parks related to offshore waters include Franks Tract State Park, which is a flooded Delta island, Point Pinole Regional Park on San Pablo Bay, and tiny Miller Regional

Park on San Francisco Bay. The Clifton Court Forebay, part of the California Water Plan, is available for fishing and boating.

2. The demand for water-related recreation opportunities, including nature study, swimming, fishing from the shore and boats, bird hunting, pleasure boating, and houseboat vacationing, is growing rapidly. The shoreline and offshore waters of the Bays and Delta have a great potential for satisfying this demand. Commercial recreation businesses, including party boat fishing, rentals, berthing, and equipment sales and repair will grow along with the increase in these types of recreation.
3. In some portions of the County, the land along the shore is not suited to permanent residences, schools, and other uses typically found in urban areas because of the risk of slope failure or flooding, but many business enterprises, such as marinas and boat repair, can be considered appropriate if they are carefully planned and designed.
4. The use of open water is a public right. In the Delta region most of the land and levees are privately owned. This indicates that the sloughs are available for increased recreation demands, but also that the use of the water must be controlled in order to avoid damages to adjacent properties--and to the quality of water and fisheries. Unplanned recreation sprawl can be as damaging and wasteful as other forms of development.
5. Property lines have not been legally established in areas of the Delta which are at least partly under the jurisdiction of the State Lands Division. Defining areas in public ownership and state-county cooperation in planning the uses of state owned lands would be a definite aid in overall planning for recreation development.
6. The Corps of Engineers' permit procedures and the County's Environmental Impact Reports together form a good basis for examining individual development proposals for docks and other structures over water. Goals and objectives for recreation development in the Delta need to be established by the County as a reference and guide for project proposals. Plans should include a survey of the recreation potential, location and extent of areas suitable for various recreation and associated commercial and residential uses, and should explore the possibilities of utilizing federal, state and local funds for land acquisition to promote recreation and protect agricultural and environmental values.

## Bay-Delta Recreation Policies

1. The rapid expansion of water-related recreation demands should be recognized and planned to produce orderly development in all shoreline areas of the County.
2. Public funds, such as from the Department of Fish and Game, should be utilized to purchase levees and acquire easements.
3. The County should encourage the State Lands Division to clarify its titles in the Delta.
4. The County should establish guidelines for Delta recreation development and use these as a reference in the coordination of Environmental Impact Reports, the Corps of Engineers' procedures, and the Department of Interior guidelines of November 1, 1971, and the Delta Master Recreation Plan.
5. As a unique resource of statewide importance, the Delta should be developed for recreation use in accordance with the State Environmental Goals and Policies Report and the recommendations of the Delta Advisory Planning Council, which are expected to be available early in 1974.

## GEOLOGY AND SOILS

### Geology and Soils for Development Findings

The entire land area of the County, like the entire area of the Bay region, is subject to damages to life and property from the very nature of the land itself. Geologic hazards vary from place to place in kind and degree. In some locations risks may be reduced to an acceptable level by wise planning and structural design. In other locations it may not be possible to reduce risks to a level acceptable for schools, hospitals, or other places where people concentrate, but the area may be suitable for roads, railroad tracks, warehouses, or very low density housing.

It is generally believed that the risks of slope failure and earthquake damages are the most common and widespread geologic hazards in the County and should receive the greatest attention in the development of the general plan and its implementation.

Detailed field investigation of seismic activity is being undertaken by a joint program of the U. S. Geological Survey and the Department of Housing and Urban Development. This will lead to more precise information on the location of active earthquake fault lines. Additionally,

the Safety and Seismic Safety Elements of the General Plan, now in preparation, will include the most detailed and up to date information available on hazards associated with soils, geology, slope, and other factors.

For the purposes of the Open Space-Conservation Plan, general statements on geologic hazards are sufficient. This plan should be amended, if necessary, to conform with the detailed analyses and policies of the Safety and Seismic Safety Elements.

1. Geologic hazards associated with the Bay Plain region include filled tidelands underlain by young, soft Bay mud, the weathered and fractured slopes of the Potrero San Pablo Ridge, and the active Wildcat-Hayward Fault which trends northwest from Kensington through Point Pinole. This fault is known to be active by observation of structural damage due to minor horizontal surface displacement. There were 7 recorded earthquake epicenters (shock centers) in the vicinity from 1969 to 1971.
2. The Briones Hills region, intensely warped, folded and sheared, exhibits a long history of geologic activity. The fractured and weathered rock, coupled with characteristic steep slopes of 26% and over, and a minerology which results in the development of slippery clays in and above the loose rock masses, has resulted in these hills being highly subject to earth and rock slides. An examination of recorded slides in the region illustrates the inherently unstable tendencies. In wet years slides are more frequent. In the 1969-70 rainy season 50 property-damaging slides were recorded in the Orinda-Moraga area. In many cases damages occurred to more than one property, and to roads and other public works.

The Pinole and Franklin Faults in the north central Briones Hills region are believed to be active based on studies of epicenter locations. Seventeen earthquake epicenters were recorded in this region in the years 1969-1971. The Safety and Seismic Safety Elements will define potential seismicity in this region.

3. The Diablo-San Ramon Valley region is underlain by geologically young alluvial deposits laid down by creek floods and tidal action, except at the northern end of the San Ramon Valley which is underlain by well-consolidated old marine sediments. The risk of slope failure is very slight on level land or gentle slopes of up to 5%, but any site which is graded for a road or building pad may be subject to earth slides even on slopes of 6% to 15%. All other things being equal, the greater the slope steepness, the greater the risks of damages.



The known active Calaveras-Sunol Fault can be traced by epicenter data through the San Ramon Valley as far north as Walnut Creek. Property damages have been experienced in this seismic zone in recent years. Approximately 50 earthquake epicenters were recorded in this region in the years 1969-1971, several of which may have been associated with the Green Valley Fault which trends northwesterly through Concord.

4. The Diablo Range region, on the peak and the flanking ridges, is composed of various rock masses which are severely weathered and fractured in some locations. An examination of aerial photographs of this region by USGS geologists has shown that the Diablo Range region has experienced many large landslides. Other smaller slides also undoubtedly exist. Property damages have been relatively minor because this region is not extensively developed. If roads and buildings are constructed in the area, slides and property damages can be expected to increase.

The Mt. Diablo Fault, trending northwesterly on the east side of the peak, is believed to be an active fault. Over 50 earthquake epicenters were recorded in this region in the years 1969-1971.

5. Geologic hazards associated with the Pittsburg-Antioch Plain region include filled tidelands underlain by soft mud, and possible slope failure of the sand dune area under seismic conditions. The stability of the terrace deposits inland from the river is not well known.

One earthquake epicenter was recorded in this region in the years 1969-1971 which may have been associated with a fault which appears to trend northwesterly through Antioch.

6. The San Joaquin Delta region is composed of deep alluvial fan and basin deposits. Foundation bearing strength is moderately good in the western portion of this region, but very poor in the eastern Delta because of peat content or a soft, water-saturated condition. The entire area may be subject to severe property damages in case of a nearby major earthquake because these unconsolidated soils tend to amplify certain earthquake waves and are subject to localized compaction and liquefaction. Levee failure is a strong probability, followed by extensive flooding.
7. The risk of property damages from any given earthquake depends on location relative to fault movement and on the characteristic responses of both the underlying material and the structure.

A location on the earthquake fault itself may cause the total

destruction of structures and will also sever public facilities such as gas and oil transmission lines, dams, water lines and aqueducts, power transmission lines, telephone lines, sewers, roads, highways, and railroads. The risks to life are also very high on the site of surface displacement.

Property damages at some distance from the earthquake epicenter are related to the seismic stability of the underlying material and the structure. A location above water-saturated or poorly consolidated material is considered more hazardous than a location over well-consolidated and unfractured rock of gentle to moderate steepness..

### Geology and Soils for Development Policies

It is the purpose of the Safety and Seismic Safety Elements of the General Plan to establish policies for the reduction of risks from geologic hazards. The policies of this plan should be adopted in the public interest and revised, where necessary, to include the policies of the adopted Safety and Seismic Safety Elements.

1. Land use regulation in hazardous areas should be commensurate with the degree of hazard involved and potential public costs for emergency and remedial action.
2. Public monies should not be used for construction or maintenance of facilities which are intended to promote urban growth in hazardous areas.
3. Where development is permitted in areas with known or strongly suspected hazards, properties should be engineered to reduce the inherent risks to an acceptable minimum.
4. A procedure should be developed whereby property purchasers can be informed of potential hazards.

### MINERAL RESOURCES

#### Mineral Resources Findings

1. The mineral resources of the County are not completely known. For those resources which are known but not presently being utilized, it is often difficult to foresee the time when they will be required to meet development or industrial needs.
2. Sand deposits suitable for bituminous, concrete, and plaster mixes are being mined along the north shore near Antioch.

3. Crushed and broken rock is being mined on Potrero San Pablo Ridge. Former quarry sites are located on Potrero San Pablo, Brooks Island, the southern Briones Hills, the Mt. Diablo region, and the foothills near Martinez. Crushed and broken rock quarries are often associated with the Franciscan Moraga and Orinda formations because their fracture patterns result in easily removed material of sizes and shapes useful for road construction and rip-rap. Transportation costs are a major factor in overall sand and crushed rock costs. Quarry sites near developing areas are very important.
4. None of the six mercury mines in the north Mt. Diablo region are operating. The mines are not worked out, however, and may be opened again if the demand for mercury makes it economically feasible to reopen them.
5. The east county gas fields are an important source of natural gas in the Bay Area.
6. Deposits of pumice, expanded shale, coal, brick clay, manganese, sands for special purposes, and dimension stone are known to exist in the County. Most of these resources are not being mined at the present time.

#### Mineral Resources Policies

1. Sand and crushed rock will be required for the future development of the County. In order to insure that these resources may be available when needed, the following policies should be implemented:
  - a. Request a survey by the State Division of Mines and Geology to determine the location and extent of valuable sand and crushed rock deposits and other special mineral resources.
  - b. Zone certain areas where valuable deposits exist within the Open Space Area to protect them for future recovery where this is compatible with existing uses.
  - c. Plan and design future development in the vicinity of valuable quarry zones to permit quarrying to take place without disturbance to residential areas and to permit the safe passage of quarry trucks.
2. Certain areas which contain known mineral deposits with potential commercial value lie inside the Open Space Area. In these zones mining and quarrying should be a permitted use. These deposits include, but are not limited to, rocks, gravel, sand, salt, and clay.

3. New opportunities to recycle resources and materials should be welcomed and encouraged.

#### Hydrology and Water Quality Findings

1. Modern society has resulted in a greatly increased use of water for the disposal of waste materials. It is now recognized that creeks, rivers, bays, and oceans have a limited capacity to absorb wastes without degradations which reduce their capacity to support life. More than 70 square miles of water area are in Contra Costa County, over 8% of the total county area. This represents a major county resource which should be developed to its fullest and protected from damage.
2. Regulation of waste discharges and dredging spoils disposal by the Regional Water Quality Control Board has resulted in improvements in the water of San Francisco and San Pablo Bays in the last 15 years. Nevertheless, there is still a great deal that must be done to achieve the goal of clean, healthy, and productive water.

The San Francisco Bay Conservation and Development Commission has jurisdiction over the uses of open water, tidelands, and to 100 feet inland of the high tide line of San Francisco and San Pablo Bays, Carquinez Strait, and Suisun Bay. The jurisdiction of BCDC ends at Stake Point between Martinez and Pittsburg. The objectives of BCDC are to protect the Bay as a resource for present and future generations and to develop the Bay and shoreline to its highest potential with a minimum of fill.

3. Wastes may have the effect of excess nutrients, leading to reduced dissolved oxygen and limiting the capacity of the water to support fish and shellfish populations. These wastes result primarily from discharges of sewage, agricultural fertilizers and manure.

Wastes may be toxic rather than nutritive. These are usually chemical substances which have the effect of poisoning any organism. These wastes result primarily from discharges of industrial and agricultural wastes, with smaller discharges from hospitals, laboratories, film developing companies, and other businesses. Toxic materials may be concentrated in living tissue, as is true of DDT and lead, and may do more harm to organisms higher in the food pyramid than to the organisms which originally ingest them from the water.

4. Quiet, shallow off-shore waters are the most subject to concentra-



tions of wastes because they do not receive the mixing and dilution which result from strong river flows and tidal currents. Shallow water areas and tidelands are highly productive. They provide the food base for fish and waterfowl. The maintenance of large and healthy populations of waterfowl and sport and commercial fishing species depends on the maintenance of unpolluted water everywhere, but special safeguards may be required to preserve the quality of vulnerable tidelands and shallow water.

5. Land reclamation projects and water discharges represent dollar benefits to some residents--but potential dollar losses to others. The recreation use of the bays has been estimated to have had a value of \$25,000,000 in 1970, and is expected to grow to at least \$45,000,000 by 1980. Millions of dollars annually will be spent in the river and delta areas of the County as recreation fishing and boating increase.

Contra Costa County's share of commercial recreation growth depends in part on the preservation of productive waters. Dollar costs to some to reduce fill and pollutants will be recovered as dollar benefits to others from recreation and associated services, and will also provide non-quantifiable benefits to all residents from a healthy environment and high quality recreation opportunities.

6. The two major suppliers of domestic water in the County, the East Bay Municipal Water District and the Contra Costa Water District, have the present and planned capacity to more than meet water needs for the County's 1985 anticipated growth. Additionally, the Central Contra Costa Sanitary District and the Contra Costa Water District have embarked on a joint project to reclaim waste water for industrial use.
7. The Contra Costa Water District has found that relatively salt-free water can be taken at the Mallard Slough intake near Pittsburg for a decreasing length of time in recent years. This indicates an upstream intrusion of salt water into the Delta region. The effects of the proposed peripheral canal are not entirely understood, but it is feared that further intrusion of saline water into the Delta, even as far as the Water District's intake at Rock Slough, is a possibility.
8. Watershed protection around reservoirs is adequate in this County, but other large watershed areas have undergone residential development without safeguards for watershed management. Urban development has major effects on natural waterways. Paving, roofs, and efficient drainage systems reduce the percent of rainfall which percolates into

the ground and increases the volume and velocity of surface runoff which must be carried in creek channels. This results in channel cutting and loss of vegetation in the upper watershed, and increased flood frequency and silting in the lower channels.

9. Engineered flood control channels are designed to carry surface runoff out of an area quickly and efficiently. Because they carry water at high velocities, they are surfaced with resistant materials such as rock or concrete. Although flood control works to reduce the risk of flood damage to life and property, single-purpose engineered channels serve no useful purpose in the maintenance of a healthy, balanced and complex natural environment. An undamaged creek, with its variety of surface materials, water depth, and light and shade, will retard water velocity, add oxygen to the water, support streamside vegetation, reduce bank erosion, produce a more even flow during the annual cycle, promote percolation into the ground, and provide favorable habitat conditions for a great variety of insects, amphibians, reptiles, birds, and mammals.
10. A flood plain management program is the most efficient and least costly means of reducing flood damages, but must be instituted before extensive development takes place. Flood plain management involves regulation of land use in flood prone areas by finding certain uses appropriate because they will not suffer heavy losses from flooding, and by requiring developers to flood proof their property. The effects are to provide a considerable degree of reduction in flood damages at very little public cost. There are intermediate steps between flood plain management and the concrete flood control channel which are applicable to undeveloped and developed areas. These include such means as the leveed floodway and the by-pass channel to carry flood flows.
11. The more efficient the drainage in the watershed, the greater the damage to natural waterways and their vegetation will be, and the greater the risk of flood damages in the flood plain. If properties were designed to hold rainfall and permit it to percolate into the ground rather than designed to get it off the property as rapidly as possible as surface runoff, damages to waterways and demands for costly engineered channels would be reduced.
12. The effects of sediments as pollution should not be under-estimated. Suspended sediments interfere with the penetration of sunlight, and may interfere with the capacity of water organisms to absorb waste materials, thus impairing the ability of water to purify itself. The

oxygen content of water is reduced by sediment particles. This endangers the survival of aquatic life. Sediments threaten fisheries and public health and safety by carrying nitrates, pesticides, and other toxic materials into fishing grounds and public water supplies. Sediments damage recreational waters, such as reservoirs, at a time when the demand for outdoor recreation is expected to triple within 30 years, and reduce reservoir capacity in a period of rapidly expanding demands for water.

Erosion and sedimentation often inflict heavy costs to local government and taxpayers for flood control, harbor and channel dredging, post-flood clearing, and private property damages. Reducing the erosion which results from urban development is complex and not as easily managed as erosion from agricultural land. Improved design and construction methods on individual properties are essential to erosion reduction. Planning for future land uses can be helpful by noting areas in which erosion control techniques must be applied, in delineating floodways, and in defining local agency responsibilities for enforcement of soil conservation practices in urban areas.

13. Supplies of underground water (aquifers) underlie the valleys and plains. Although heavy pumping is thought to be responsible for seawater intrusion into the aquifers along the north coast, and many of the soils yield water high in dissolved minerals, it is important to protect and maintain these supplies for present and future users and for the population generally in case of a major disruption to the imported water supply such as dam failure or contamination. The excellent moderate-yield aquifer which underlies a portion of the Bay Plain could be especially important to El Cerrito, Richmond and San Pablo residents if a major earthquake on the Wildcat-Hayward fault zone were to damage the water supply pipes which cross this zone from the reservoirs to the east.

#### Hydrology and Water Quality Policies

1. In order to protect the productivity of the County's off-shore water resources the following policies should be implemented:
  - a. Support regional, state, and federal efforts to continually improve water quality.
  - b. Encourage local, state, and federal agencies to develop means of maintaining agricultural productivity with reduced amounts of toxic and nutritive chemicals which can damage water quality.

- c. Consider the maintenance of clean and productive off-shore waters as essential to commercial fishing and commercial recreation growth.
  - d. Permit minor land-fill or other land reclamation for water-related uses if no alternative site is available and if public benefits clearly exceed public detriments from the loss of open water or tidelands areas.
  - e. Neither the Federal Government nor the State of California have been able to demonstrate that the proposed peripheral canal would in fact protect, preserve and enhance the San Francisco Bay Delta Estuarine System. Substantially more scientific and technical study and investigation is required before parameters defining such protection; preservation and enhancement can be established. It is the County's firm conclusion after extensive analysis that the proposed peripheral canal may prove to be extremely detrimental to the Bay and Delta. Therefore, the County Board of Supervisors has taken the position that the canal should not be authorized at this time by either the Federal or State governments.
2. In order to preserve the remaining natural waterways system in the County, including the vegetation and wildlife it supports, reduce the risks of erosion, silting and flood damages, reduce public costs for flood control works and preserve the scenic quality, the following policies should be implemented:
- a. In presently undeveloped portions of the Urban Growth Area, means of reducing the risk of flood damages without destroying natural streams should be investigated and applied to the greatest feasible extent.
  - b. New developments in the Urban Growth Area should be designed to reduce the volume and velocity of surface runoff and soil erosion, including revegetation programs, the design of surface and subsurface drainage, and grading.
  - c. In presently developed areas, efforts should be made to improve the environmental quality of flood control works and to retain native vegetation to the greatest feasible extent.
3. To protect valuable underground water supplies for present and future users, underground discharges of toxic liquid wastes should not be permitted in areas known to be underlain by aquifers, or in the ground water recharge basins of such aquifers. The use of reclaimed



water for industrial operations should be encouraged.

## AIR QUALITY

### Air Quality Findings

1. Modern society has led to an increased use of the atmosphere for the disposal of waste materials. It is now recognized that the atmosphere has a limited capacity to accept wastes without serious degradations which lead to damages to human health and crop and livestock losses.
2. The Bay Area Air Pollution Control District is a regional agency which has the responsibility for regulating air emissions from stationary sources and rail and sea transportation. The District grants permits for actions which produce air emissions, determines acceptable amounts of emissions from specific sources, and has the power to abate the emission of air contaminants that cause "...injury, detriment, nuisance, or annoyance to any considerable number of persons ...or which cause...injury or damage to business or property". (Health and Safety Code - Sec. 24360)

The State Air Resources Board administers gasoline and diesel powered motor vehicles emission control programs. Aircraft are regulated by the Federal government. State standards are based on the recognition that the combination of unusual geographic, meteorological and economic factors in California requires more restrictive emission controls than may be needed elsewhere. By 1975 both state and federal standards will require the production of virtually pollution-free automobiles, although the technical means of achieving this goal have not yet been completely developed.

3. In the Bay Area over 60% of all air emissions come from motor vehicles. Industrial emissions account for approximately 30% of air pollutants. In 1971 there were 37 industrial sources of air emissions in Contra Costa County which emitted approximately 12 tons of particulate materials, 94 tons of nitrogen oxides, 140 tons of sulfur oxides, and 50 tons of carbon monoxide per day. Motor vehicles caused larger emissions of nitrogen oxides and carbon monoxide. Vehicular emissions of carbon monoxide amount to about 90% of the total for that pollutant.
4. Oxidant, photochemical smog, results from a chemical reaction which takes place in the atmosphere between nitrogen dioxide and organic

compounds in the presence of sunlight. The most obvious effects of oxidant are reduced visibility, vegetation damages, and eye and respiratory irritation. Motor vehicles emit over 50% of the gases which lead to oxidant.

5. It has been estimated that the annual per capita cost from all kinds of air pollution in the Bay Area is \$38--half the national average. Damages include darkening of paint, cracking of rubber, corrosion of metals, and loss of agricultural products. Damages to human health are difficult to relate directly to air pollutants, but the U. S. Public Health Service believes that air pollution contributes significantly as a cause or aggravating factor in a number of respiratory diseases.
6. Air pollution is greatest on days without strong breezes and when an inversion layer exists. An inversion layer is a blanket of warmer air lying over a layer of cooler air. The inversion acts as a barrier to prevent pollutants from rising and being diluted vertically. An inversion which lies below the crest of the hills becomes a lid sealing the lower pollutant-bearing air mass in the valleys. The Bay Area experiences inversions about two out of every three days.

When ventilation is poor--that is, when reduced wind speed and an inversion prevent dilution and dispersion of pollutants--the air basins experience the worst air quality conditions. When ventilation is poor and there is no cloud cover, oxidant levels may also arise rapidly. The months between May and October, which are sunny and also experience strong inversions and stagnant air, constitute the "smog season" when the worst sieges of air pollution are experienced.

7. Air pollution from vehicles is related to the number of vehicles and the number of miles driven. Since urban development brings an increase in the number of cars and trucks, one way to reduce air pollution is to minimize the number of miles vehicles are driven. In Contra Costa County, this means encouraging the growth of residential areas close to major employment centers. The air will suffer less from a car driven 5 miles to work each day than from a long commute trip from Antioch to Oakland, for example. A similar approach would be to encourage balanced growth with employment and residences developing together rather than merely building extensive bedroom communities.

Transportation corridors, which lie in pollution-prone valley bottoms for the most part, suffer concentrations of vehicular air pollutants from both local and through traffic. East-west Highways 4 and 24 and north-south Highway 680 are especially subject to vehicular emissions from through traffic.

8. The topography of Contra Costa County is such that the interior valleys, including the Diablo-San Ramon Valley and many smaller valleys and canyons, are especially subject to concentrations of air emissions. The Pittsburg-Antioch Plain is also subject to concentrations of pollutants and obnoxious odors from industries located in the vicinity. In 1971 the state oxidant air quality standard, 0.10 ppm, was exceeded in Richmond 7 days, in Pittsburg 23 days, and in Walnut Creek 36 days.

The Bay Plain and the low northeast coast of the Briones Hills are the least subject to polluted air of any region in the County because they receive excellent ventilation by winds drawn through the Golden Gate. There are a number of industrial emission sources present in this region, and a large number of vehicles. During the occasional windless sunny days of summer and fall air pollutants build up rapidly, including high levels of oxidant.

Approximately 75% of the Briones Hills region lies under the 800 foot elevation and so is subject to reduced ventilation on days when the inversion is low. On-shore winds tend to move pollutants generated on the Bay Plain into the interior valleys and canyons which open to the west. The urbanized Orinda-Moraga-Lafayette area experiences more days of poor air quality than the northern part of this region partially because of the absence of coastal winds and partly because of emissions in the area, largely from vehicles. Development in the central and east County, bringing a large increment of traffic through Orinda and Lafayette, would have the effect of worsening air quality in the central and southern Briones Hills region.

The Diablo-San Ramon Valley region, including the Clayton Valley, has a very high potential for concentration of pollutants except for the extreme north coast which has better ventilation. The further inland from Suisun Bay, the more days are experienced which exceed state air quality standards. Oxidant and other forms of pollution are concentrated in the vicinity of the Livermore Valley including the San Ramon area. Continued development here will lead to worsening air quality in the absence of great reductions in vehicular emissions.

The Pittsburg-Antioch Plain is less subject to concentrations of air pollutants than the interior valleys because ventilation is relatively good along the coast. A number of industrial emission sources exist in the plain, however, and when the wind dies pollutant levels and odors build up rapidly. An increase in residential and industrial development in this region would lead to higher pollution levels on still days and a generally worsened air quality, especially if large

numbers of cars and trucks were added along the Highway transportation corridor.

The Diablo Range is less subject to concentration of air pollutants because of the land elevation. Areas over 1500 feet in elevation are especially free of pollutants trapped under the inversion. If large numbers of vehicles use the mountain, however, local areas of polluted air can be expected to occur in valleys and canyons.

The San Joaquin Delta region is highly subject to pollutant concentration. Westerlies blow coastal industrial and vehicular emissions into the San Joaquin Valley, and more is generated by the rapidly growing cities in the central valley, but the ventilation factor is not good. The relatively sunny climate indicates a high potential for the formation of oxidant. Besides the damages to human health, this rich agricultural region is subject to crop and livestock damages from poor air quality.

#### Air Quality Policies

1. The County should continue to support regional, state, and federal efforts to reduce air pollution in order to continue to develop in full confidence of not endangering human health or crop values.
2. Additional industrial operations which generate air emissions should not be permitted in areas which have experienced air pollution which exceeds state standards for the proposed emissions, or air pollution which exceeds state standards for oxidant if the proposed emissions would include gases which contribute to oxidant.
3. Residential, commercial and industrial growth should take place within the Urban Growth Areas until 1980. At that time urban expansion should be considered in areas in which air quality is within state standards or in which a pattern of consistently improved air quality has been demonstrated.

#### VEGETATION AND WILDLIFE

##### Vegetation and Wildlife Findings

1. Diversity is a major indicator of health and stability in an ecosystem. The greater the variety of kinds of plants and animals which live in an area, the less the risk of a disastrous event such as epidemic disease or rampant increases in unwanted plants and animals.



Man's major effect on the environment is to simplify it. Large acreages are devoted to only one kind of plant--a crop--or grazing lands are treated to eliminate species considered inharmonious with livestock raising. In urban areas, paving and roofs represent extreme simplification of the environment, and homeowners rarely tolerate the "weeds" in the lawn.

A simplified environment requires a higher level of management. Chemical fertilizers, poison sprays and mechanical devices must be used to maintain these artificial landscapes. These often lead to damages to water, soils, vegetation, and wildlife which are not less regrettable because they are unintended.

Although the time is long past when the vegetation and wildlife of the County can be allowed to increase or decrease without artificial controls, management techniques must increasingly reflect the importance of the relationships among living resources and the importance of control measures being applied with a "light hand" in order to preserve the diversity, stability, health, and beauty of the environment to the greatest possible degree.

2. Vegetation as such plays a number of important roles in the maintenance of environmental quality. These include, but are not limited to, the following:
  - a. Control temperature and humidity, tending to reduce extremes.
  - b. Reduce wind velocities.
  - c. Intercept rainfall, thus preventing earth compaction from raindrop impact (a particular problem on clay soils), and also reducing the short-term volume of surface runoff. The later effect tends to reduce flooding and add to ground water.
  - d. Deep roots reduce erosion and slides. This characteristic is especially important in the riparian vegetation along creeks and other flood prone or unstable areas.
  - e. Contribute to the maintenance of air spaces and soil organisms essential to a healthy soil.
  - f. Contribute to the oxygen content of the atmosphere and remove or neutralize certain noxious air pollutants.
  - g. Form the base of food for all animal life, including man.
  - h. Provide shelter and breeding areas for wildlife.

- i. Provide Visual relief from the harsh surfaces and glare of the urban environment.
3. Several distinct vegetation types are found in the County. They include the following:
- a. The Bay Plain can be characterized as having an urban plant community consisting of a great variety of plants native to the entire world. The major exception to the urban scene is the remaining remnant of once extensive marshes. The marshes are composed of shrubs, grasses, and innumerable minute one-celled plants which are the "pasture" for small fish, shellfish, and bottom dwelling organisms. Salt marshes produce as much as 7 to 10 times the plant volume of cultivated crops. The benefits to man are indirect in the form of harvesting the fish and shellfish which depend on marsh productivity.
  - b. The Briones Hills, in the urban areas, can be characterized as an "irrigated forest" of native and imported trees and shrubs. Eucalyptus, an Australian native, is widely planted. Also present are hundreds of acres of grasslands composed of introduced and some native grasses and a variety of flowering annual plants including the California poppy, our state flower.

South and west facing slopes and dry rocky ridges are often clothed in dense brush including Coyote brush, Ceanothus, manzanita, scrub oak, and other Chaparral associates. North-east facing slopes and other relatively moist locations often support woodlands composed of oaks, California bay, madrone, and buckeye, with a number of shrubs and annuals in the understory. Riparian woodlands, with the same species as woodlands plus willows, alders, cottonwood, and other moisture-loving trees and shrubs, are found along stream channels and in canyon bottoms.

- c. The Diablo-San Ramon Valley and other moderate sized valleys in the central county contain areas which are cultivated in orchards and row crops. The urban areas contain the typical irrigated forest mix of plants. Outlying areas usually still contain the native riparian woodlands along streams, but these are fast giving way to engineered channels in cities.
- d. The lower elevations of the Diablo Range are in Savannah, which is grasslands with scattered oaks. The riparian association is present in canyons and ravines. Dry rocky slopes at higher elevations

are clothed in Chaparral brush. Scattered locations of juniper and pines are also present.

- e. The Pittsburg-Antioch Plain is partly in cultivated and urban vegetation, and partly in grasslands. It is edged by marshes along the shoreline.
  - f. The San Joaquin Delta region is cultivated in pasture, orchards, and row crops. The eastern foothills are largely grazed grasslands interspersed with cultivated areas and brushland. Fresh water marsh vegetation is located in the Delta sloughs.
  - g. Special vegetation types include the Redwoods in the vicinity of Canyon and several sizeable plantations of eucalyptus in the Berkeley Hills near the western border of the County. Lists of rare and endangered species and species of special interest are on file at the County Planning Department.
4. Two problems with vegetation are fire hazard and invasion by unwanted species. During the dry season grasslands are easily ignited. Grass fires are relatively simple to control if equipment can get to them, but burned over slopes are highly subject to erosion and gully-ing. Brushlands are naturally adapted to frequent light fires, but fire protection in recent decades has resulted in the accumulation of enormous amounts of fuel on the ground. Brush fires now, especially near the end of the dry season, tend to burn fast and very hot, threatening homes in the area and leading to extreme destruction to the vegetative cover. Woodland fires are relatively cool under natural conditions, but a brush fire which spreads to woodland could generate a destructive hot crown fire. No suitable management technique of moderate cost has been devised to reduce the risk of brush fires.

Invasion by unwanted species varies from place to place. The spread of thistle into grazing land is thought to be an indicator of overgrazing. Removing cattle from grazing land may lead to the area going from grass to brush, and in some locations, ultimately to California bay woodlands. Stream channels which are dry during the dry season in their natural state may become choked with brush and weeds as a result of nearby irrigation and garden watering. This leads to a reduced channel capacity and an increased risk of flooding. Siltation in sloughs may lead to an increase in marsh vegetation, also reducing channel capacity and leading to increased flood frequency in the Delta region.

5. Wildlife populations will become established in any area which provides the required conditions for all life phases throughout the year.

Habitat conditions vary from species to species, but in a general way can be related to vegetation types. Habitat types in the County include the following:

- a. The aquatic and tidelands habitat includes fish, shellfish, waterfowl, predatory birds, amphibians, and mammals. The migratory route of bass, steelhead, salmon, and sturgeon enters the County approximately at Point San Pablo and moves along the northern border into the Sacramento and San Joaquin river systems. Spawning and nursery grounds are located in marshes, coves and the shallow waters of the bays and the Delta sloughs.

Waterfowl, including the migratory waterfowl of the Pacific Flyway, rely on marshes, tideflats, and shallow water for feeding and resting. Waterfowl which nest here also require uplands brush along the edge of marshes for shelter and nest security. Losses in the Bay Area Snowy Egret population, for example, are due partially to land reclamation of marshes, and partially to the loss of appropriate upland nesting sites.

Mammals of the aquatic habitat include the small rodents of the pickleweed salt marsh and a small remnant population of Harbor seals which rest on Castro Rocks under the Richmond-San Rafael Bridge. Fur-bearing mammals inhabit the fresh water sloughs of the Delta, including beavers, mink, otter, and muskrat. Fur trappers take over a thousand of these animals annually.

- b. Some animals prefer the urban habitat. Pigeons, European rats, cockroaches, and various insects are notable and often troublesome city dwellers. Chemical controls appear to be effective for individual buildings, but less so for larger-scaled control programs. In the case of rats, removal of favored habitat conditions, combined with chemical controls and trapping, seems to be most effective in reducing populations to a tolerable level.
- c. Wildlife associated with the grasslands habitat includes very large populations of rodents, meadow-nesting birds, and the predatory birds and larger mammals which come into the grasslands to feed.
- d. Insects and rodents in cultivated areas are being controlled almost entirely by chemical means. Combinations of biological and chemical controls are being developed. These are expected to prove both cheaper and more effective in the long run and will also reduce the risk of long term environmental damages, such as the extreme loss of insectivorous birds which has occurred in this state.



- e. Brushlands are a vital breeding and shelter area for mammals and birds, as well as providing entire habitat conditions for reptiles, amphibians, birds, and small mammals. It is thought that an increase in brushlands through clearing, grading, land reclamation projects and landscape planting has resulted in an increase in the deer population in recent decades. The numbers of predatory mammals typical of brushland have been reduced by predator control programs and increased urbanization. Woodlands also have their all year natives plus birds and larger mammals which rest and breed in the shelter of the trees but range widely for food.
- 6. Wildlife is the property of the people of California. The management of this public resource requires large contiguous areas of all native vegetation types, minimal animal control programs, and may require restrictions on an areas use by people at certain times of the year. Preservation of migratory routes from one area to another is also essential to migratory fish and some terrestrial animals. The smaller and less diverse the habitats available to wildlife, the higher the management costs will be to support this essential element of nature.
- 7. Open space which is designated for recreation, agriculture, watershed management, and other open space uses can have wildlife maintenance as a secondary function, and in most cases land management techniques can reflect this purpose without damaging the values of the primary use.
- 8. Although dogs are not usually considered wildlife, free-running family dogs can inflict serious predatory damages to livestock and wildlife. Marauding dogs, often running in packs, have a history of harassing, maiming, and killing livestock and wildlife. This problem is more serious to cattle and sheep growers than predation by coyotes or wildcats, and as the population grows, and the numbers of family dogs increase, it is expected to become worse. Encroachments of residential neighborhoods into agricultural areas will also intensify these problems.

An additional aspect of the marauding dog problem is related to the fact that these dogs attack skunk and fox, as well as deer. Rabies is considered endemic in skunk and fox populations. Unvaccinated free-running dogs are a particular hazard to the human population since they may become rabid and transmit the disease easily to people. This is not believed to be an immediate health risk at this time, but should be a consideration in planning for the future because of the extreme seriousness of any outbreak of rabies, even

though the risk of an outbreak is low. Enforcement of the County Animal Control Ordinance with regard to vaccination and animals at large is vital to rabies prevention.

Because dogs do not attack in a regular pattern, they are difficult to trap, shoot, or otherwise control when compared with the more predictable native predators. Putting more animal control officers in the field will not in itself be enough to reduce dog predation to an acceptable level, but is most essential in a comprehensive program which should also include educating owners and applying severe penalties for repeated violations of the Animal Control Ordinance. A program of this nature would require additional funds which could come from an increased appropriation, increased licensing fees, fines and forfeitures, etc.

#### Vegetation and Wildlife Policies

1. A variety of natural vegetation types and wildlife habitat areas should be retained in the major Open Space Area sufficient for the maintenance of a healthy balance of wildlife populations. In order to achieve this the following policies should be implemented:
  - a. The Open Space Area should have wildlife management as a secondary function to its basic open space uses. Management techniques should reflect consideration for wildlife values. Land with an application for inclusion in the Agricultural Preserve Program as "wildlife habitat area", in conformance with the amended Land Conservation Act of 1965, should be approved upon the recommendation of the State Department of Fish and Game.
  - b. Fish, shellfish, and waterfowl management should be considered the major open space use of marshes and tidelands, with recreation and commercial uses secondary.
  - c. Applications of toxic chemicals should be kept at a minimum and applied in accordance with the strictest standards designed to conserve all the living resources of the County. The use of biological and other non-toxic controls should be encouraged.
  - d. Areas known to be essential for the maintenance of rare or endangered species or plants and animals of special interest should receive special consideration in conservation and development.
  - e. The County Department of Agriculture has recommended to the Board of Supervisors an expanded dog control program with provisions for additional staff, public education and a more severe

penalty structure. All efforts to insure that dogs are vaccinated against rabies and properly controlled should be strongly supported.

2. In order to preserve wildlife and human values in the Urban Growth Area, the following policies should be implemented:
  - a. The planting of native trees and shrubs should be encouraged to the greatest feasible extent in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native wildlife, and insure that a maximum number and variety of well-adapted plants are sustained in urban areas. A tree ordinance should be adopted for the protection of mature native trees in developing areas.
  - b. County agencies should continue efforts to develop efficient and moderate cost means of reducing the risk of severe fires, especially in brushlands and woodlands. Areas within the Urban Growth Area known to have an unusually high risk of fire damages should be used for homes, schools, and hospitals only if adequate means of fire prevention and control are provided.
  - c. Where conditions develop which are conducive to rats or other objectionable urban wildlife, the areas should be cleaned, provided with adequate garbage removal services, or otherwise treated to reduce the numbers of pests to an acceptable level.

## AESTHETIC QUALITIES AND HISTORIC FEATURES

### Aesthetic Qualities and Historic Features Findings

1. Most of the information about the outside world received by the human brain is a result of visual stimulation. Therefore it is rational to consider the visual content of the environment as a real and important factor in physical and psychological health.
2. The scenic resources of the County are large and of a very high quality, including an abundance of the most popular scenic views--the rural agricultural landscape and the natural regional landscape. The Briones Hills and Diablo Range regions also provide visual relief from the hard surfaces and glare of the urban scene. All forms of outdoor recreation are enhanced by scenic qualities ranging from broad Bay vistas and the Delta sloughs to narrow wooded canyons and dramatic panoramic views from ridge tops and peaks.
3. Maintaining the scenic resources of the County depends on maintain-

ing extensive areas of open space in all physiographic regions. Urban sprawl and "leapfrog" or "checkerboard" subdivisions are especially damaging to visual quality. Degradation to scenic qualities in Contra Costa County would be an indication of degradation to the physical environment and would tend to reduce the high value people place on living, working, and spending leisure time in the County.

4. It sometimes happens that individual homes or tracts are constructed on ridge tops in such a way that the scenic qualities from the site are superb, but the view of the ridge to all others, including other property owners, is considerably worsened. This can occur if structures are poorly placed or if landscaping is completely unrelated to the natural visual qualities of the surrounding slopes.

Roads, highways, power lines, canals, storage tanks--all these and more can degrade the scenic quality of a large area through poor design, placement, or landscaping.

Often small land areas can contribute a great deal to visual quality if located and landscaped as buffers between incompatible land uses, as between industrial and residential districts.

5. The identification of important scenic routes, as delineated in the Scenic Routes Element of the General Plan, along with identification of other scenic corridors, can be used to assess the visual impact of development proposals.
6. Historic and cultural sites include remnants of earlier days which have primarily a historic interest, such as Indian mounds or homes of famous people, and also natural features and examples of architectural styles which are unique in themselves without special regard for historical events.
7. A preliminary list of historic sites in the County is on file at the County Planning Department.

It is difficult to find local funding, public or private, to preserve evidence of the County's early society and cultures. New and imaginative means of preserving such areas need to be explored.

#### Aesthetic Qualities and Historic Features Policies

1. In order to prevent damages to the visual qualities of the County which result from development, the Open Space-Conservation Plan should be adopted and remain in effect until 1980.
2. In order to preserve and utilize scenic qualities within the major Open Space Area to the fullest, the following policies should be implemented:



- a. Adopt the Scenic Routes Element of the General Plan.
  - b. Recognize that while some recreation areas need to be developed for intensive uses, others may provide a more valuable recreation purpose by remaining in as natural a state as possible.
  - c. Support inter-agency efforts to design highways and utility systems in a manner which minimizes negative visual effects.
3. In order to preserve and utilize scenic qualities within the Urban Growth Area the following policies should be implemented:
- a. Review plans for commercial development, especially along major arterials, with architectural unity and visual quality as important design criteria.
  - b. Continue efforts to control signs that are garish or otherwise disturbing in the urban landscape.
  - c. Design hillside and ridge top properties so that they do not excessively disrupt the visual quality of the landscape.
  - d. Assess all development proposals from the point of view of visual quality in order to promote the physical and psychological well-being of all citizens, present and future.
  - e. Design and landscape industrial, residential, and other properties to provide needed visual buffers between incompatible land uses.
4. In order to preserve and utilize natural and man-made features of historic interest in the County the following policies should be implemented:
- a. Set priorities on the preservation of historic sites.
  - b. Locate natural features worthy of special preservation interest, such as key peaks, groves, and stream segments.
  - c. The County should explore new and innovative means of acquiring and preserving historic sites and natural features other than outright purchase.

## ACTION PROGRAM

The legislation requiring that an open space and conservation element be adopted by June 30, 1973, also required that an action program be included to implement it. Existing legislative provisions had required planning agencies to recommend measures to implement an adopted comprehensive plan. But in contrast to the permissive tone of prior legislation as to what measures might be included, the new legislation now explicitly states that "Every local open space plan shall contain an action program consisting of specific programs which the legislative body intends to pursue in implementing its open space plan."

This means that planning for open space cannot end with general proposals, but must include a specification of regulatory, fiscal, institutional, and development and conservation activities needed to achieve open space objectives. It is the purpose of this chapter to comply with this requirement.

The action program is divided into three subsections. Actions to be undertaken by the Planning Agency are focused upon first. The next section discusses the requests the Planning Agency intends to make of other government agencies or the citizenry of the County. The last section generally discusses the financial resources that can be utilized to help in the implementation of this plan.

### Actions By The Planning Commission And Board of Supervisors

#### 1. Adopt this Conservation and Open Space Plan

The County Planning Agency should adopt this plan as the basis for decisions relative to private development and public investment in the County.

This document presents a range of policies, goals and problems which will take the concerted effort of numerous agencies both within and outside the county to implement. This document then becomes the policy focal point for decisions of local agencies and county departments in terms of open space and conservation.

#### 2. Continued Open Space-Conservation Element Refinement

Continue, through the County's Comprehensive Plan Program, to work on a refinement of the Open Space-Conservation Element as a second phase of this General Plan effort. This work would continue until the revised County General Plan is adopted thereby further delineating the open space areas.

#### 3. Adopt a Scenic Highway Element

As a part of the County's Comprehensive Planning Program, the County Planning Department, has prepared a proposed Scenic Highway Element of the General Plan which is presently under consideration. This proposal, with whatever modifications are required, should proceed toward adoption.

4. Adopt Other Required Elements of the General Plan

Proceed with preparation of other required elements of the General Plan such as Seismic Safety, Noise and Public Safety. This work should proceed in concert with the County's comprehensive planning program.

5. Conformance of Zoning to the Open Space and Conservation Element

Section 11526 of the Business and Professions Code specifies that "No city or county shall approve a tentative or final subdivision map unless the governing body shall find that the proposed subdivision, together with the provision for its design and improvement, is consistent with applicable general or specific plans of the city and county."

This concept is emphasized in the legislation referring to open space plans. In particular, Section 65567 of the Government Code states "No building permit may be issued, no subdivision map approved, and no open space zoning ordinance adopted, unless the proposed construction, subdivision, or ordinance is consistent with the local open space plan."

The following zoning districts are to be considered open space zoning districts; they are in conformance with the Open Space Areas delineated on the open space plan and comply with Government Code Section 65910. 65910. They are:

- A-4: Agricultural Preserve District
- A-3: Heavy Agricultural District
- A-2: General Agricultural District
- F-1: Recreational Water District
- F-R: Forestry Recreation District

For areas within the Urban Growth Area that are to be kept in open space uses, the following additional categories are in conformance:

- R-100: Residential District 100
- P-1: Can be in conformance for the portions of these districts that are to remain unimproved

Except in specific circumstances where reason or substance dictate otherwise, it is intended that development ordinance decisions be subordinate

to the policies that comprise this Open Space and Conservation Plan.

All areas presently zoned U-Unrestricted found in open space areas be rezoned to bring them into conformance with this plan (this consists basically of areas in the Carquinez Strait).

A total review of the agricultural zoning districts be made to see if they are in conformance with the intent of this plan. The contract used in the Agricultural Preserve zoning district should be reviewed also.

New open space zoning categories (or combining districts) be created to deal specifically with areas not in agricultural production which should remain in an undeveloped state. Areas to be considered for inclusion in these zones are flood plains and earthquake fault zones, as well as extensive recreational facilities.

The minimum lot size in all agricultural districts should be increased to avoid premature and unanticipated development. Ten acres should be considered as a minimum acreage.

#### 6. Control the Fragmentation of Land

Large parcels of land are continually being divided through the minor subdivision procedure thereby creating difficulty in planning for orderly development especially because of resultant varying ownership patterns.

This suggests that the provisions of the minor subdivision ordinance should be reviewed along with the establishment of policies and guidelines as to its application. The County should proceed with this review.

#### 7. Agricultural Preserve Lands

The County Agricultural Preserve Program has been in effect since 1968 and to date has brought approximately 60,000 acres into the program. It would be inappropriate to assume that Williamson Act lands provide permanent protection to lands brought into the program. They can, however, be considered permanent in the sense of the time span for this plan.

The Agricultural Preserve Program provides for tax benefits when assessment is based on use.

The use of this program should be encouraged for properties located in the open space areas shown on this plan.

Add to the County's ordinance all lands which may be included under



State law. This includes lands found within scenic highway corridors, wildlife habitat areas, salt ponds, managed wetland areas, and submerged areas. This would provide for a broader range of lands that could be brought into the program.

8. Develop Recreation-Open Space Zoning District

New zoning district(s) to accommodate the open space-recreational uses for land that is not adequately described by existing districts should be prepared. Possible uses for this district(s) are mentioned in the section on expanding the Williamson Act program. The Planning Department should prepare these districts as part of the implementation program.

9. Use of Scenic Easements

Under provisions of the State Government Code (Section 51050) a county can accept grants for scenic easements provided that a General Plan has been adopted. The scenic easement must provide for a minimum of twenty years.

10. Environmental Impact Reports (EIR)

The County Planning Department has been designated the key agency in terms of preparing and processing environmental impact reports. The purpose of these reports is to explore the environmental impacts of the actions and entitlements granted by the government. These reports will test and add detail to this open space and conservation element. Any actions which are found to be contrary to this plan will be discussed specifically in each EIR.

The EIR data collection process should be used to gather data in a consistent manner for further refinement of the conservation and open space elements. The EIR process should also be used to establish better environmental coordination with other permit-granting agencies.

11. General Plan Compatibility

State law makes provision to insure project compliance with the General Plan.

It requires the planning agency to "Investigate and make recommendations to the legislative body upon reasonable and practical means for putting into effect the general plan or part hereof, in order that it will serve as a pattern and guide for the orderly physical growth and development and the preservation and conservation of open space land of the county or city and as a basis for the efficient expenditure

of its funds relating to the subjects of the general plan; the measures recommended may include plans, regulations, financial reports, and capital budgets."

The law also requires that all public projects subject to the adopted General Plan shall be "...submitted to and reported upon by the planning agency as to conformity with said adopted general plan...."

The State law further states that "Any action by a county or city by which open-space land or any interest therein is acquired or disposed of or its use restricted or regulated, whether or not pursuant to this part, must be consistent with the local open space-plan." It also says that "No building permit may be issued, no subdivision map approved, and no open-space zoning ordinance adopted, unless the proposed construction, subdivision or ordinance is consistent with the local open-space plan."

These sections taken together provide adequate mechanisms for ensuring general plan compliance.

## 12. Planned Unit Development (PUD)

There are areas within the Urban Growth Areas for which the conventional subdivision of land is inappropriate. These areas generally include significant woodlands, steep hillsides and hazardous geological areas, all of which require a special degree of sensitivity in site planning and development. The planned unit district approach should be encouraged for these areas.

## 13. Conservation of Historic or Cultural Sites

While Contra Costa County is relatively young in terms of its historical heritage as compared to other areas of the United States, it has numerous sites and structures that are of historic merit. Most of these sites are in private ownership, many are worthy of preservation.

In addition to this inventory, consideration should be given to the numerous unique architectural styles of dwelling and facilities that should be recognized as representative of building styles and periods.

Efforts have been underway to preserve some of these sites and their environs on an informal, almost ad hoc basis. Whenever development requests adjacent to the major sites have occurred, efforts have been made to ensure the integrity of the facility. In addition, the Planning Department is considering ways and means for historic preservation.

## Requests To Other Agencies, Boards, And Commissions

### 1. Local Agency Formation Commission (LAFCO)

The responsibility for shaping urban form and planning for the logical staging of this urban growth is shared between the planning agencies in the County and LAFCO.

As stated in the Government Code, "Among the purposes of a local agency formation commission are the discouragement of urban sprawl and the encouragement of orderly formation and development of local governmental agencies...."

This section further specifies that "In order to carry out its purposes and responsibilities for planning and shaping the logical and orderly development and coordination of local governmental agencies so as to advantageously provide for the present and future needs of the county and its communities, the local agency formation commission shall develop and determine the sphere of influence of each local governmental agency with the county. As used in this section 'sphere of influence' means a plan for the probably ultimate physical boundaries and service area of a local governmental agency. In determining the sphere of influence of each local governmental agency the commission shall consider:

- (a) The maximum possible service area of the agency based upon present and possible service capabilities of the agency.
- (b) The range of services the agency is providing or could provide.
- (c) The projected future population growth of the area.
- (d) The type of development occurring or planned for the area, including, but not limited to, residential, commercial, and industrial development.
- (e) The present and probable future service needs of the area.
- (f) Local governmental agencies presently providing services to such area and the present level, range and adequacy of services provided by such existing local governmental agencies.
- (g) The existence of social and economic interdependence and interaction between the area within the boundaries of a local governmental agency and the area which surrounds it and which should be considered within the agency's sphere of influence.

The commission shall periodically review and update the spheres of influence developed and determined by them."

The LAFCO staff has prepared a draft proposal on the spheres of influence for existing cities over a ten year period.

There should be many similarities between the spheres of influence proposal and the Open Space-Conservation Element. In addition, LAFCO should be encouraged to de-annex urban service type taxing districts from open space areas.

2. Association of Bay Area Governments (ABAG)

ABAG is responsible for the coordination of planning efforts for jurisdictions within the Bay Area. They have developed a generalized regional plan and rely on member jurisdictions to add further detail responsive to local needs. After the adoption of this element, ABAG should be requested to adopt this plan as a further definition or detailing of their plan, to be used by ABAG in their planning efforts, and that future projects should be reviewed as to conformance with this plan.

3. East Bay Regional Park District (EBRPD)

The Park District has been actively engaged in purchasing and developing recreational facilities within the County. The Park District is currently in the process of preparing a 20-year master plan of park and recreational needs for the County which is to be completed by 1974. The Park District has been working closely with County personnel to insure maximum coordination toward common goals. Every effort should be made to aid the District in the development of their master plan and its implementation.

4. California Department of Recreation and Parks

This State Department operates two major recreation facilities in the County, Mt. Diablo and Frank's Tract State Parks. The State has been slowly expanding Mt. Diablo State Park. Much more land is required to "save" all of Mt. Diablo for public use. The County should press the State for more funds to provide for park expansion. In addition to Mt. Diablo State Park lands, there are adjacent lands which are part of what is termed the State Game Refuge. These lands are under private ownership but there is an agreement with the State Department of Fish and Game that in these areas it is unlawful to take fish, bird, or mammal life without a permit from the State. In short, no hunting is allowed. This has provided wildlife protection on these adjacent lands.



## 5. Recreation and Natural Resources Commission

This commission's general purpose is to advise and inform the Board of Supervisors on recreational development and on the overall enhancement, protection, preservation, and economic utilization of natural resources. Specifically, the commission should recommend to the Board and other public agencies policies related to natural resources, including agricultural lands, scenic roads, etc.

During the course of this plan's review, the commission should report to the Planning Commission and Board of Supervisors on its findings as part of the public hearings on the plan. Once the plan is adopted, meet with Planning Department regarding conformance of recreational projects with the plan.

Commissions such as this have been instrumental in actively soliciting gifts of land or money for open space purposes. Direct this commission to become knowledgeable on the advantages of land gifts for providing tax advantages to individuals and corporations. Direct the Planning Department to serve as staff to this commission for this purpose. It is hoped that in this way a program can be set up to acquire land or easements through gifts and donations. This would be done to supplement other such programs.

## 6. State Land Division

In the Delta there appears to be some need to clarify the boundaries of privately owned lands and the state for certain non-leveed land areas, tidelands, and submerged lands. In these areas, it appears that some title exists with the state. There are areas in the Delta for which title has never been patented. This has led to some confusion over the status of the public's rights in the Delta. The State Lands Division should be requested to undertake a study of the lands in state ownership or easement within the Delta.

## 7. All Local Governmental Agencies

The independent actions of numerous local agencies will, to a great extent, determine if the policies and proposals of this report can be implemented. For this reason, all local governmental agencies review their operations and work with the County and LAFCO to attempt to coordinate programs with the intent and purpose of this plan.

Also, each local agency is requested to work with the County's Administrator, Planning Department and LAFCO staff toward bringing their operations into conformance with the Environmental Impact

Statement requirements of the California Environmental Quality Act (CEQA). Additionally, the Board requests that each agency review the area over which it has jurisdiction by law to see if jurisdictional or legal changes are required to bring it into conformance with the CEQA and this plan.

#### 8. Environmental Quality Committee

The County should explore the means by which an environmental quality committee could be created within the context of the Countywide planning program to help coordinate the environmental planning being done by the County, the cities, and other levels of government operating in Contra Costa County. Much of this work is being carried out in connection with conservation and open space requirements of the State Planning Law and all of it needs to be coordinated with other planning operations. This organization could make use of the specialized knowledge of the County's citizens and public officials and serve as a sounding board for the environmental issues that are now of critical concern to the public.

The County Planning Department should be directed to study the desirability of setting up an Environmental Quality Committee and report its findings and conclusions to the Board of Supervisors.

#### 9. Land Trusts for Open Space

A land trust is a non-profit corporation<sup>1</sup> organized by local citizens for the purpose of receiving gifts of land and managing them. Because trusts are devoted to educational, scientific and charitable work, their holdings are exempt from property taxes. Contributions to a trust are tax-deductible.

There are national organizations operating as trusts, such as the Nature Conservancy or the Trust for Public Land, but local organizations are being set up to supplement their efforts.

The advantage of a land trust over donation of land to a local agency is that the donor will be assured that the land will be kept in open space, rather than converted to other uses at a later date. The donor can place restrictions on the use of the land which will be strictly observed. The possibility of a local-based trust should be explored by interested citizen groups.

## Additional Financial Resources That Can Be Utilized

This section generally reviews some additional resources available to the County for conservation and open space action. It is recognized that many other agencies are actively involved in open space and conservation activities; no attempt is made to review their activities or discuss their programs. Only new money or a redirection of its expenditure is referenced below.

### 1. Fish and Game Code Monies

The County receives approximately \$8,000 yearly, entirely by fines imposed under the provisions of the California Fish and Game Code. The use of this fund is restricted under California Fish and Game Code Section 13100 to the propagation and conservation of fish and game within the County, and for education and youth activities related to fish and game. To date this money has been utilized for a variety of purposes. A longer range program should be developed to spend these monies according to priority and in coordination with other park-recreation expenditures.

### 2. Park Dedication Fees

Money or land is currently being collected for building permits that will serve to help bear a reasonable relationship for the use of park and recreation facilities by future inhabitants. This money is to provide a source of revenue to aid in the parks' function and not as the sole financing method for providing local park service. In the year and a half that this ordinance has been operational, it has generated over \$400,000 in funds to be used for local parks and recreational services. The process for dispersal of these monies shall be adopted under separate cover.

### 3. East Bay Regional Park District

The Park District covers about 80% of the land area of Contra Costa County and has about 97% of the County's assessed valuation within its jurisdictional boundaries. It has a tax rate of 10¢ per 100 dollars for existing parks. In 1972 an additional 5¢ was assessed and this will increase another 5¢ when the master plan for anticipated recreational needs of the County to 1990 is approved. Of the additional taxes, 80% will be utilized for acquisition of new lands and 20% for the maintenance and development of new facilities.

4. Revenue Sharing

The effect of the revenue sharing program on the financial structure of the County cannot be determined for some time. Only when these issues are resolved can intelligent decisions be made on the use of revenue sharing monies. Some of this money should be made available for open space uses.

5. County Open Space Bond Issue

The possibility of a county bond issue has been discussed by the Board of Supervisors. To translate this idea from the talking stage to the proposal stage for decision by the Board of Supervisors on whether to place a bond issue on the ballot will require an initial study of what should be acquired and its cost. The combined staff from the County Administrator's Office, Planning Department and the Public Works Department could be brought together to prepare an initial proposal for Board action. This should be considered a high priority work item for these departments.

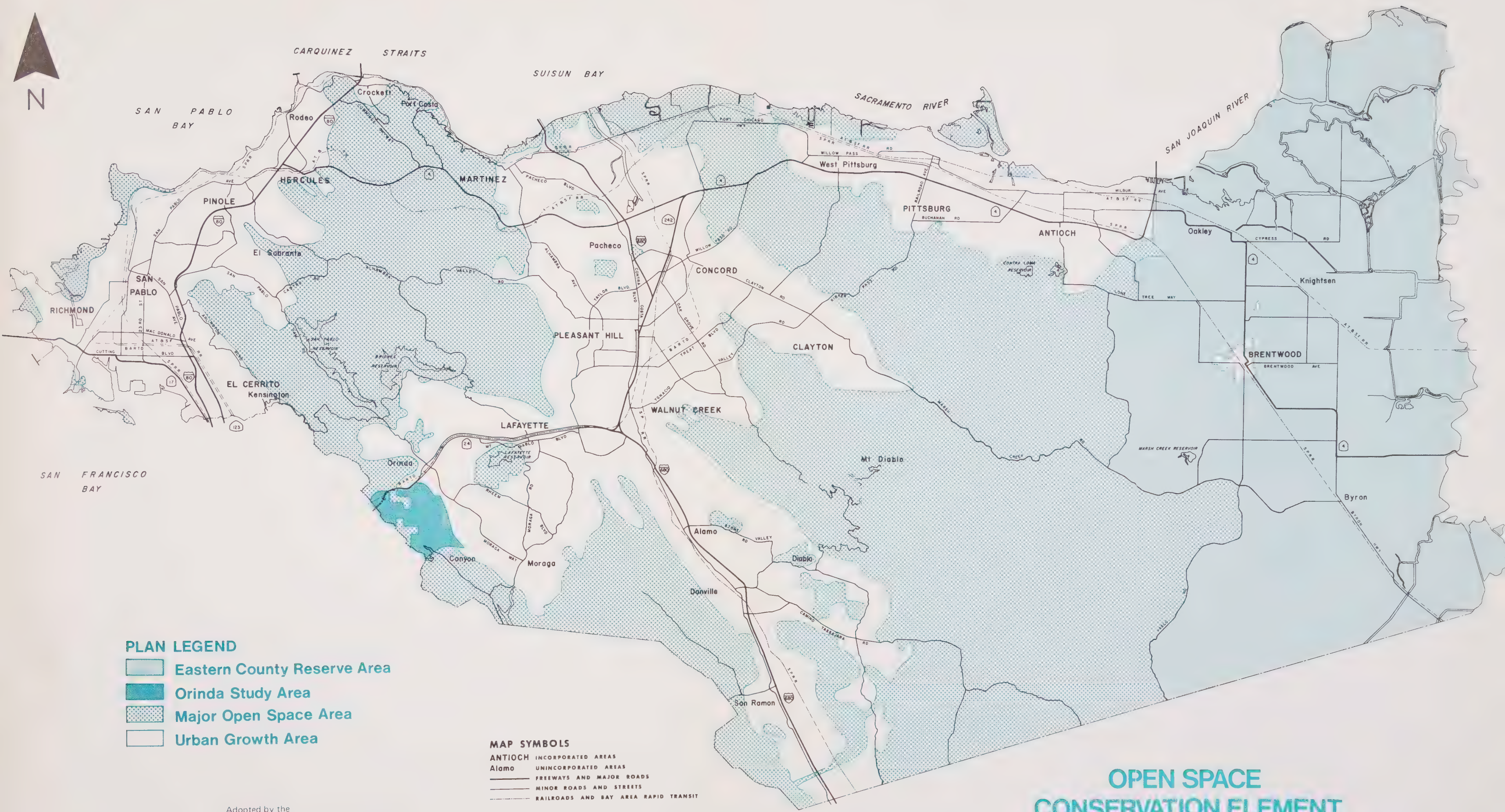
6. State Beach, Park, Recreational and Historical Facilities Bond Act of 1974

These State Bond Act monies will go onto the June 1974 ballot to the people of California. If passed this would authorize the state to issue \$250 million in bonds. Of this nearly \$2.5 million would be earmarked for use in Contra Costa County from the \$90 million to be allocated to counties. Other money will be available for use to the State Department of Parks and Recreation. The County should prepare a program to bring to the voters' attention what passage of this bond issue would mean in terms of local acquisition.

7. Review of All Excess County Lands

A review of all lands in county ownership or tax default lands should be made to identify those parcels that have permanent open space value. Those with potential should be set aside until a decision can be made on the ultimate use of these lands.





Adopted by the  
Contra Costa County Planning Commission  
June 5, 1973  
Board of Supervisors  
June 29, 1973

Amended by the  
Contra Costa County Planning Commission  
July 24, 1973  
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August 14, 1973

Prepared by Contra Costa County Planning Department  
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# OPEN SPACE CONSERVATION ELEMENT CONTRA COSTA COUNTY CALIFORNIA





Prepared by the  
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